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Buffalo Medical and Surgical Journal

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Original Communications.

THE CORN-STALK DISEASE IN CATTLE.

By FRANK S. BILLINGS,

Director of the Patho-Biological Laboratory of the University of Nebraska.

(*Continued from July number.*)

Immediately upon discovering the close resemblance of this germ to that of the Southern cattle plague, and before my cultures had had time to develop, or I had tested its malignity on any animals, I wrote to Mr. R. M. Allen, manager for the cattle company named, making inquiries as to the possibilitiy of its having come in contact with any feed that could have in any way been in contact with material polluted by Texas cattle during the previous Summer or Fall months, and received the following reply, which is inserted on account of its historical connection with these investigations:

"Ames, Neb., Jan. 11, 1888.

"*Dear Sir*—I cannot see any possible chance of the infection of the steer from hay polluted by Texans. The steer was from the J. E. Boyd herd on the Cheyenne river, Wyoming territory, and I do not know of any Texas cattle going into that country the past Summer. We have Texas cattle of our own here, but they have all passed a Winter in Wyoming. There have been no hogs about the cattle in any way. I am sorry I failed to examine another steer that died in the lot—thought it was constipated [a condition common in the corn-stalk disease—B.], but I think it died from a different cause. We lose a number of steers that die suddenly, but in such cases we generally find a diseased liver [the liver is badly diseased in the corn-stalk disease—B.], and other appearances of excessively rich and concentrated feeding. We did not know that the steer was sick until we found it dead. We had examined this lot particularly for sick cattle, having recently lost one out of the same pen."

Here, then, was a new disease discovered, and one belonging to that group of extra-organismal (etiologically) septicemiæ, and caused by still another member of the ovoid-belted class of bacilli, or germs; but where the organism came from, or how the disease originated, was

still a perfect mystery, which was not much cleared up by the appearance of a second outbreak in an entirely different part of the State, from which I also received material and the following communications.

THE CORN-STALK DISEASE AT CORTLAND, NEB., MARCH, 1888.

The material from this outbreak came to me in a still more satisfactory manner than that previously mentioned. It seems it was originally sent to the State Live-Stock Commission, but as neither they nor their State Veterinarian were competent to make any use of it, it was sent to this laboratory, and had it not had the name of "Dr. W. S. Brayton, Beatrice," on the wrapper, it would have been impossible to trace the matter any further, for the sublime simplicity and ignorance of the State's watchful guardians of our live-stock interests, placed them entirely beyond the pale of either useful knowledge or practical information.

Microscopical examinations of the fresh organs revealed the presence of apparently the same organism as had been found in the Ames case, and the inoculation of small animals enabled me to obtain pure cultures, by which its identity with that germ was sufficiently demonstrated. Upon writing to Dr. Brayton, I was favored with the following polite reply:

"BEATRICE, Neb., March 20, 1888.

"F. S. BILLINGS, Lincoln, Neb.:

"*Dear Sir*—Yours of March 18th received. The history of the cattle, as near as I can find out, is as follows: They were shipped from Osage, Iowa, about September 1, 1887, to Cortland, Neb. When starting from Osage, they were in apparent good health, and at Cortland, were unloaded and given in the charge of a Mr. ——— to winter. The cattle were herded on high ground, getting their water from a small creek which runs through the same. As soon as cold weather commenced, they were taken about five or six miles from Cortland, and put into a lot containing somewhere from five to six acres on a creek bottom, and were allowed to run to flax-straw and oat-straw for feed, and getting their water from the creek which ran through the lot; I think the same one that runs through the pasture in which they were herded during the Fall, and in which they are at present. . . . In this lot was some timber (I do not know how much), which was their only protection from the weather. From this lot they were moved to their present location, and allowed to run to a millet stack and to some oat-straw stacks. On March 13th, I held post mortems upon two dead animals—one a cow (in calf) and a yearling steer. The cow had died the night before, and was in a fair condition as regards flesh, but the steer was poor. I found on post mortem, first, that the blood was of an unnatural color and seemed to be thick. The heart had a blood-clot in each side, and the posterior aorta contained a clot for about a foot from the heart. I found no lesions in the mouth, but when the stomach was reached, the lining membrane of the rumen would peal off in large patches. The discharge from the bowels was a little thinner than natural and streaked with

blood. The lungs seemed in a healthy condition. The piece of lung sent was from the lung on the under side, which I think caused it to be so congested. The liver was about its natural size. The spleen about natural, with the exception that it looked blacker than usual.

"The history is as follows: These cattle would be all right at night, but in the morning there would be one or two that could not get up, but showed no signs of pain. Some of these would get up with help for once or twice, and then die in the course of three or four days, and others would not get up at all, and die in from twelve to twenty-four hours. . . . The trouble seems to affect the cattle in the best condition. Cows abort their calves, and seem to do well after it. There are no external appearances of disease. The cattle have had no shelter this Winter, except the timber already spoken of. I saw both hogs and horses among the cattle, but was informed that there had been none of them sick. I saw some of the hogs eating a portion of a carcass of one of the cows."

Though I had again discovered the same micro-etiological organism that I found in the material from the steer of the Standard Cattle Company at Ames, Neb., a few weeks previously, and proved its malignancy in this case also, still I was completely in the dark as to its source, or origin—that is, in what manner the cattle got at it. That the disease was due to feeding on food polluted with the germ, I felt fully convinced. I had no data up to this time pointing to corn-fodder as the cause—in fact, I doubted the whole business, though really knowing nothing about it, save that it seemed improbable that dry fodder alone, or even smut, could possibly cause it. It will be seen that Dr. Brayton does not mention corn-fodder, or stalk-fields, in his letter, and at the time I did not know enough to be suspicious and ask any questions in that direction, but he does mention millet and hay-fodder, which opens up the question, Can or does the germ invade these materials also? An answer to this can only be given by practical experience and observations with the assistance of the scientific botanist and the pathological investigator.

In order to show the value of scientific investigation, even when the ultimate result sought for has not been attained, let me say that all these experiences clearly taught me that the specific cause was in some way connected with the food the cattle were getting; so I advised Dr. Brayton to change the same entirely, which was done with the most happy results.

CORN-STALK DISEASE AT FREMONT, NEB., FEBRUARY, 1889.

By referring to an earlier part of this report, the reader will see that "Dr. Osborn, State Veterinarian" (of Nebraska), visited this outbreak, and on February 7th said: "There is no contagious disease known to veterinarians which affects the third stomach of the cow, and

that was the seat of the disease in every case that I examined. The third stomach, or manifold, was packed with dry food, which, taken in the fingers, crumbled like flour."

The above shows a terrible lack of necroscopical ability, for, in the first place, the condition of the stomach named is, in a varying degree, common to every acute infectious disease in cattle, accompanied by an excessive rise of temperature; and again, as will be soon shown, there were essential, specific, and pathognomic lesions in these animals of just such a disease, which the veriest tyro should not have allowed to escape his notice.

No sooner did I see the reports of this outbreak in the daily papers, than the suspicion arose that it was probably the same disease from which I had previously examined material and procured the same etiological organism from, at Ames and Cortland. Unfortunately, a most peremptory engagement—the farcical investigation ordered by the Legislature—rendered a personal inspection of the outbreak entirely out of the question. Hence, I dispatched the most trustworthy veterinarian at my command, though not such as I would desire as an expert in necroscopical observation, to visit the outbreak and bring me back material in sterilized bottles with which he was supplied, and which he knew how to collect in a suitable manner. As said above, I could not expect very detailed reports of the gross pathological lesions, still Dr. Thomas's very brief report of what he did see is sufficient to show that much more serious lesions were present than those reported by Dr. Osborn—lesions which directly point to a malignant infectious disease, which interfered most seriously with the circulation, and which must, of necessity, have been accompanied by an excessive rise in temperature. The animal examined by Dr. Thomas was killed by him, and immediately opened, the material being at once placed in the bottles previously mentioned.

His report is as follows:

"Symptoms and post mortem conditions of Mr. John Delaney's cattle, also how they have been cared for since December 1, 1888: Lost fifty-two head up to February 7th (1889); commenced dying five or six weeks previously. Mr. Delaney's herd was composed of 170 head, divided into three lots, viz., 100 cows and heifers, forty-six last year's calves, and twenty-four fat steers. Deaths have occurred as follows: Seven fat steers, eight or nine calves, and thirty-seven cows and heifers.

"Mr. Delaney's herd is in good condition, though a few are thin in flesh. The 100 head have been fed hay, and run in the stalk-fields days. The fat steers have been fed corn and hay. The calves were fed millet until February 4th. They also had some corn. The entire herd drinking from one tank supplied by a wind-mill—all having a certain amount of salt. The hay fed is in very good condition; the cows also drinking from the Elkhorn river when running in the field. The first symptoms

noticed are switching the tail, some of them shivering, followed by bellowing, staring eyes, chasing pigs and chickens, in fact almost anything coming in their way; straining so violently that many of them evert the rectum, and evacuate only a small amount of feces, somewhat covered with mucus. They become lame, paralysed, and usually stand until a short time before death. Strongest ones live longest, and the wildest die in the shortest time. They are sick from eight hours to seven days. The majority of them become wild or delirious, and die within twenty-four hours after the first symptoms are noticed. Fifteen to twenty were shot to prevent them doing damage. Five or six did not get delirious.

AUTOPSY.

"Pleuro-pneumonia sufficient to kill; the entire lung being congested and the lower portions of the lobes solid; inflammation of the pleura, and about two gallons of serum in the thoracic cavity; stomach all in good condition; liver very firm and pale-colored; gall bladder well filled; urinary bladder filled; intestines inflamed.

"Mr. Delaney stated that, in those he examined, the liver looked 'half-cooked or white, and the gall bladder as large as a hog's bladder blown up.' Others stated that, of those examined, the majority of the gall bladders were ruptured. In one case the rectum divided, black and gangrenous, also a portion of the small intestines the same.

"Mr. Delaney's farm is on the Elkhorn and Platte river bottoms, about five or six miles north-east of Fremont, a short distance from the Elkhorn river."

It will now be remembered that Dr. Osborn also said: "The hay and stalks are exceedingly dry, and the cattle not having sufficient quantities of water and salt, congests are found." Just what "congests" means pathologically, is more than I can explain. Dr. Thomas was especially directed to look up the water question, and it is to be seen that in no way could the cattle have been without a sufficient supply of water to answer the requirements of nature.

The material brought in by Dr. Thomas consisted of fresh blood from the heart, which was coagulated, the coagulum being solid and of a dark purple-red color; serum over it straw-colored and clear.

There were pieces of the organs in a tin box, and they were somewhat frozen; for, according to my orders, they were to be allowed to freeze at once, and kept so immediately after being removed from the animal.

Lung.—The pleura covering the piece of lung was much thickened, presenting an irregular, shreddy surface of a yellowish-red color, interrupted by numerous small red centers; the vessels of the interlobular spaces were engorged, much resembling the condition frequently seen in acute pneumonia in swine-plague; the lobuli were solidified, some being of greyish-red color, others purplish grey-red, while still others were of a yellowish grey-red color and very anemic; the cut surface was exceedingly edematous; interlobular

tissue swollen; many lobuli presented centers of a diffuse dark purple-red color, between which were others of a pearly-grey color, others dull grey, and still others yellowish-grey, with a varying amount of reddish tissue between them; bronchial tubes filled with straw-colored, coagulated material. As mentioned previously, such a description would answer equally well for a form of pneumonia met with in swine-plague, especially in eight or ten-day cases; in fact, the structure of the lung having such a color resemblance in cattle and swine, there is no pathologist living who could have told this piece of lung from that taken from a similar case of swine-plague, and the conviction would have been still more strengthened by the examination of covering glass specimens of the tissues and the blood of this animal; but the fact that swine are known to be insusceptible to this disease, entirely shuts out that probability. The closeness of the mere microscopical resemblance of this organism to that of swine-plague, is very well illustrated by the accompanying letter from Prof. T. J. Burrill, the most accomplished mycologist in this country, to whom I sent cultures and a slide:

"CHAMPAIGN, Ill., March 9, 1889.

"*My Dear Doctor*—Yours of the 3d inst. reached me yesterday, apparently after some delay *en route*, and the box came this morning safe and in good order. The tubes are all fertile, and, as far as examined, have pure cultures. *I have not fully studied the microbe, but am not a little surprised that the thing is so near like hog-cholera in its microscopical characteristics.* But I find no difficulty in applying your description. I have already tried inoculation in a rabbit, and will further study your cultures and let you know result. I have not, but will also look up my old slides, and compare. Will write you early next week. In the meantime, I congratulate you upon the progress already made in this entirely new work. Bravo!

"Hurriedly but truly yours,

"T. J. BURRILL."

To return to our pieces of organs:

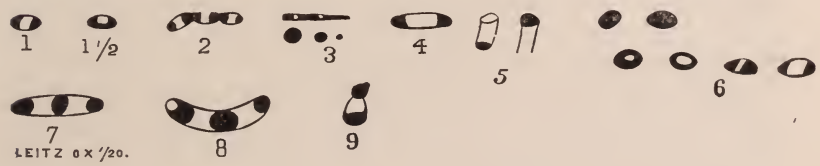
Liver.—Capsule normal, cut surface very opaque, excessively swollen and anemic, and of a dull, greyish, brown-red color; peripheries of the acini of yellowish-grey color. Center reddish.

Kidneys.—Cortex much swollen, anemic, opaque, yellowish grey-red in color; vasa and tubuli recti much distended; medullary substance bright red, interrupted by a very pregnant distension of the tubes, and an occasional large blood-vessel. A small piece of the small intestine presented a very much swollen mucosa, covered with a thick viscid coating, and of a diffuse yellowish-red color.

Covering glass specimens from all these organs gave, apparently, pure conditions of one and the same organism, corresponding exactly to those found in the Ames and Cortland outbreaks. A hanging-drop, prepared directly from the blood coagulum, at once shows the organism to possess most active movements, corresponding exactly to those of the swine-plague and Southern cattle-plague organisms, and possessing the same manner of development.

MORPHO-BIOLOGICAL CHARACTERISTICS OF THE GERMS OF THE SOUTHERN CATTLE-PLAGUE, THE AMERICAN SWINE-PLAGUE, AND THE CORN-STALK DISEASE IN CATTLE.

These microörganisms are neither to be classed with micrococci or bacilli, though some class them with the latter. They are not round objects like the former, or regular rods like the latter. They belong to that intermediate group to which, for convenience sake, patho-bacteriologists are beginning to give the name "bacteria," which, while not perhaps a scientific classification, has many practical reasons in its favor. Their longitudinal diameter is about twice that of their transverse. They are ovoid. Their ends are rounded. If an endeavor be made to differentiate these germs from one another by a microscopical



examination, we shall find it impossible. They are approximately of the same size and shape. Fresh specimens of either will not differ so much in dimensions—under the microscope—as old cultures of either will from fresh ones, or different individuals in the same old cultures. They are about one-sixth the transverse diameter of a red blood-cell in length. In one way, however, they can be easily differentiated by microscopic examination.

The swine-plague germ has a far sharper chemical affinity(its poles) for the blue and violet tinctions than that of the southern cattle-plague or the corn-stalk disease, and the latter possesses a special affinity for fuchsin, while the former does not. The swine-plague organism is also more bacillary than the others.

Whatever the tinction used, if applied *lege artis*, the ends, or poles, of these microörganisms will show a greater specific affinity for the coloring material; while the middle portion of the body has far less, unless the exposure to the tinction is unduly or longer pushed, when this portion of the body will eventually color. The capsule of these germs seems to be composed of the same material as the ends, as it colors in the same manner, thus presenting a delicate line of substance connecting the two-colored, coccoid, ends or poles. The most practical illustration which can be given of the microscopic appearance of these organisms is to take a small white bean and paint both of its ends and two of its sides blue or red, leaving the middle portion

unpainted. Looking down upon such a bean would give the observer an almost exact picture of these microörganisms.

Like the genuine and only germ of the American swine-plague, the microörganisms of the southern cattle-plague and corn-stalk disease are motile in fluid-cultivating media when observed microscopically, as well as in the blood-serum of diseased animals.

The movement of these germs is not the active shooting or straight-out movement of many organisms, but they change their locality in the field, they turn over and over, rise and fall in the drop, move sideways, and when two are united together twist in various directions, in their endeavors to separate, just as we try to break a rather tough stick in two.

In my earlier descriptions of the microörganism of the American swine-plague, I have called attention to the great morphological variations which it undergoes in completing its full cycle of development. These are its morpho-vegetative phenomena. To one entirely unaccustomed to observing them, the first appearance of a microscopic specimen of a cultivation of these germs, more especially an old one, would prove very puzzling indeed. In fact, the novice would very often conclude that his cultures had become polluted by micrococci, so plentifully are these objects apparently represented. They simply represent a vegetative or embryonal period in the development of micro-etiological organisms. The views of Hüppe, an eminent German authority, are very misleading upon this point. He describes, or classifies, this class of germ as "micrococci." It would be equally logical, however, to call an ovum a man, or an apple-seed an apple tree. It is far more practical for the patho-bacteriologists to stick to the name "cocci" for all round objects—not spores—which have equal diameters in their mature form, and which color diffusely, and to call these ovoid organisms bacteria, where the longitudinal diameter is not much more than double the transverse. As to bacilli, spirilli, etc., there need be no dispute, so plain are their morpho-characteristics.

The mature micro-etiological organism of the American swine- and southern cattle-plague, corn-stalk disease has been described above—Fig. 1—as resembling a white bean with its ends and sides so painted as to leave the middle portion of the body untouched, as we look down upon it. That is the picture which the eye of the observer generally receives; but a more exact inspection of a stained covering glass specimen will show that the above is not always the appearance presented to the eye, even by the mature germ. Many specimens may be seen in which the white belt does not

extend entirely across the object, and there will be more uncolored substance upon one side than the other (Fig. 1½). At first I mistook this appearance for the accumulation of the uncolored substance in this way during the process of its secretion by the pole-ends, which I take to be the method by which this non-coloring material is produced. The whole organism is surrounded by a capsule, but naturally we do not see that portion covering the pole-ends, as it colors at the same time with them. The question now arises: If the whole capsule colors, why do we only see evidence of the same on the sides and not on the part presented uppermost to the eye, which appears uncolored?

Whether or not this appearance of more color in the capsule upon one side or the other is due to the action of the heat in drying the covering glasses, is more than I can say, but the reason that we only see the capsule colored on the sides under appropriate treatment, is very evident. It is an optical phenomenon.

The whole capsule colors exactly alike, with the above exception, but being so extremely delicate that we do not perceive the color in that portion presented to the eye by the middle of the object, on account of its thinness; but in looking at the side, we look through more material and hence see more color, just as in looking through a glass-slide or piece of window-glass, it appears clear; but if we look through more volume of glass, by looking at its edge, we perceive a more or less greenish shade, according to the quality of the glass.

Again we may see two or three of these organisms joined together, all presenting the normal characteristics of full maturity (Fig. 2). I have never seen more than three thus united, except in very old cultures. In general, they appear either singly or in pairs. In very old cultures, these microörganisms become thinner, more rod-like, and color more diffusely with the same degree of exposure to the tinction, and the white substance is either not visible at all or is very faint (Fig. 3). Again, such old cultures are very replete in apparent micrococci of various dimensions, which might lead one into the error of assuming that his cultures had become polluted. I call this last condition that of coccoid degeneration (Fig. 3); or we may see unusually long objects, the longitudinal diameter of which being twice or three times that of the mature germ, the white or uncolored substance occupying a corresponding extensive amount of space, while the refracting or colored pole-ends may be somewhat larger, or of the same size of those of the mature object. This condition represents the first step in the development of these organisms: that is, they become longer, and more of the white non-refracting material is secreted (Fig. 4).

The next step in the process of vegetative development is the separation of one of the pole or coccoid ends, which becomes free and for a moment is exactly round like a coccus; and, as in a hanging-drop culture (to which I always add a very slight amount of an aqueous coloring solution), one will naturally see a very large number of these coccoid objects, on account of the fact that each individual germ present is continually going through the same process of multiplication. Here, again, we may see a phenomenon that might be misleading: one of the coccoid ends having been separated, the other still remains attached to the white non-refracting material; and, as evidence that the refracting pole-ends have a greater degree of specific gravity, as well as chemical composition, we may see in the continual tumbling about and turning over and over of these objects, a white, round, or nearly so, colorless, non-refracting object, or numbers of the same. When the microörganisms in such a hanging-drop culture have died from want of nourishment, we may see a large number of these objects, which can easily be mistaken for spores. But if we inoculate a new hanging-drop culture from the same material used to prepare the former, it will be found impossible to fall into any such serious error. It will be easily seen, then, that these uncolored refracting points keep continually going out of sight, their place being taken by the non-refracting point still attached to the other end of the white substance. By watching one and the same organism in its continuous turning over and over, first one appearance and then the other will be presented to the eye, until the second end, coccoid, has become detached (Fig. 5).

What becomes of this colorless refracting middle piece?

I do not know.

To my mind, this material within the capsule which does not readily take up the tinction, is a fluid, and it seems to me as if this fluid became free with the separation of both pole-ends, and that the capsule underwent dissolution at the same time. That this white belt (in the complete organism) does not represent a spore condition or have any relation whatever to spores, is entirely beyond all question, as I have now searched diligently for spores for over a year in both old and new cultures of the swine-plague germ, and in others made at all kinds of temperature within the bio-limits of these organisms, but in vain.

These objects being so exceedingly minute, it takes some time to educate the eye so that one can perceive every phase of their development. There are days when one cannot study them continuously at all. The best way to study hanging-drop cultures, when one desires to spend several hours over them, is to first make some cover-glass

specimens of the same material, or take slides of the same object and observe such for about half an hour, thus preparing the eye to see what one wants to see in the living developing organism. Unless this is done, some very essential points will be surely missed, and some preventable errors fallen into. With anything less than a power of 800 diameters, no one should attempt to study these organisms, and then only when aided by the best of Abbe condensers and oil-immersion lenses.

We left our studies with the mature object proliferated into its first distinct stage of vegetative differentiation. We had two coccoid objects before us; that is, two round objects, their diameters being the same in any direction. If colored, they color throughout: that is, diffusely. Were these objects to remain in this condition, they would be indeed micrococci. They do not, however. They almost immediately begin to increase in a longitudinal direction, but in this condition they still stain diffusely.

In my first description of the swine-plague germ, I said that the next biological phenomenon was the appearance of a delicate white line separating this ovoid object into two halves. The above, while not exactly an erroneous description, is certainly anticipated by another phenomenon in the evolutional development of this coccoid diffusely-coloring object into the mature germ of any of this class of diseases. That this white non-coloring substance is a secretion of the two pole, or coccoid, ends of these "belted" germs, is beyond all question, as well as that it has a different chemical composition. These two facts, when taken together with the previously stated one, that the white substance almost, if not instantly, disappears from view the moment both of the coccoid—pole—ends have become shed off, segmented, leads directly to the following hypothesis:

May not this white substance constitute, aside from the capsule, the ptomaine, or essential poisonous pathogenetic principle, in connection with these "belted" septicemic germs, and may not this process of the immediate dissolution of this white substance be the means by which this ptomaine gets into solution, and thus permeates the fluid-cultivating media and the blood?

To my mind, this supposition is worthy of consideration. The fact that we can find no evidence of the development of permanent spores by these germs, and that this white substance is a secretion of the pole-ends, goes largely to support this hypothesis.

The phenomenon above spoken of as anticipating the formation of the segmenting white line which separates the two darker portions of these organisms is, that this white substance first appears in the center

of the body of the dense, dark, ovoid object as the minutest of white specks, which gradually increase in size and quantity, and extends across the entire object, the white line being at first broader in the middle but gradually widening until it completely and clearly separates the two pole (coccoid) ends, and the mature object is again presented to our view. (Fig. 6.)

We have thus described the normal or general cycle of development of the micro-etiological organisms of the American, English, and European swine-plagues, the American southern cattle-plague, hen cholera, the German "Wild seuche" (of deer, swine, and cattle), and rabbit septicemia, and the corn-stalk disease, all of which diseases are caused by a member of this class of "belted" germs, and should be classed as extra-organismal, local, or land septicemia. It seems to me that the germ of yellow fever, as well as the disease itself, should also come into this group[1].

[*To be concluded in September number.*]

THE INFLUENCE OF ORAL IRRITATION IN THE PRODUCTION OF DISEASE OF THE UPPER AIR-TRACT.[2]

By FRANK HAMILTON POTTER, M. D., Buffalo, N. Y.,

Lecturer on Diseases of the Nose and Throat in the Medical Department of Niagara University.

THE invitation of your committee to read a paper before the Eighth District Dental Society was very much appreciated, and it was accepted because of the belief that both your specialty and mine could derive benefit from a discussion of some of their interdependent relations. You have so far perfected the knowledge of the diseases of the teeth and their treatment as to have merited and obtained recognition throughout the world, while those of us who are devoting ourselves to the study of the diseases of the upper air-tract—including, as it does, the nose, throat, and, to a large extent, the ears—are fast arriving at a position of positive knowledge concerning many of the maladies seen in this region.

The organs whose diseased conditions come under our notice are situated close together, and it would not be surprising to find that where one was diseased, the others would, to some extent, be affected

1. See an article on the Germs of Yellow Fever lately published in *Medical Times and Register* of Philadelphia.

2. Read by invitation before the annual meeting of the Eighth District Dental Society of the State of New York, April 16, 1889.

also. Moreover, the mucous membrane lining the mouth, nose, throat, and the various sinuses connected with them, is continuous, thus inviting the spread of pathological processes. And yet, of far more importance is the intimate nervous supply that binds these diversified organs so closely together. The same nerve, practically, supplies common sensation to all the organs we are considering. This wonderful fifth nerve sends sensory branches to the eye-ball, lachrymal gland, conjunctiva, nasal mucous membrane, all the muscles and integument about the eye-ball, orbit, os frontalis, nose, mouth, cheek, lips, temple, superior portion of the pharynx, tongue, gums, and teeth. Acting under a well-known law of nervous force, a disease in any part supplied by one of these branches may be reflected to a part supplied by another branch, and there produce not only irritation but, occasionally, disease itself. And it is now also well understood that sensory impulses originating in one set of nerves may flow through the sensory tracts in the medulla and pons, and be reflected to parts supplied by an entirely different set of nerves. Thus distant sources of irritation often play an important part in the etiology of disease. What nervous force is, we do not know, but many of its phenomena we can understand. We know, for instance, that nasal disease frequently produces cough and other symptoms located by the patient in the larynx. Sometimes they will insist, on account of this cough, that they have lung trouble, but the symptoms will disappear on the correction of the nasal difficulty. There is also a cough produced by ear disease, and is known as ear-cough. And it is familiar to all dentists that the various neuralgias of the head and face may be aggravated or even produced by diseased teeth. In certain conditions of the system, the nerves become exceedingly impressionable; and, as beautifully stated by Sexton, "When nerve-tension has been long disturbed in this way, reflex phenomena are easily excited; continuous aural, nasal, or dental irritation, even if imperceptible, may affect one part or another, until nutritive (trophic) changes are brought about."

The reflexes having their origin in diseases of the nose, and throat, and ears, have been studied, to some extent, and a number of very interesting cases are on record illustrating them. In some instances, no doubt, the reports of these cases may be questioned, the enthusiasm of the observers having carried them too far. But enough remains to demonstrate the importance of a careful study of the subject. Dr. John N. Mackenzie, of Baltimore, in a paper on the "Pathological Nasal Reflex,"[1] says:

1. Transactions American Laryngological Association, 1887.

"Various neuralgic conditions of the branches of the fifth and other nerves—cough, asthma, vertigo, nightmare, 'hay-fever,' various spasmodic affections, genera. convulsions, diseased states of the nose, eye, ear, larynx, and bronchial tubes, symptoms referable to irritation of the gastro-intestinal, utero-ovarian, and genito-urinary tracts; even chorea, epilepsy, melancholia, retarded sexual development, and exophthalmic goitre—have been mitigated, or known to disappear, with the cure of the nasal affection."

While so much has been done in this and other directions, the teeth, as the starting-point of reflex irritation in the production of catarrh, have not received the attention they deserve. The writer's attention was first called to this subject by cases occurring in his practice, and while his studies are not yet, in many instances, complete, sufficient has been observed to warrant the statement that in cases of "catarrh" the health of the teeth should be carefully inquired into. Of course, there may be, and generally are, other causative factors at work, but this, at least, should not be neglected.

Let us first inquire into the sources of oral irritation, and then consider the reflex phenomena resulting therefrom.

The subject of oral irritation has been very carefully studied by Dr. Samuel Sexton, of New York, to whose work I am indebted for much that is of great value. His investigations had to do with diseases as seen in the ears, but his discussion of the question is broad, and can be utilized with respect to other regions of the head subject to catarrhal inflammation. The eruption of the teeth, as is well known, frequently causes severe irritation, both of a local and of a reflex nature. Teething children often present repeated attacks of a subacute coryza, the discharge from the nasal passages being of a watery nature. If possible to make an examination, the mucous membrane will be found swollen and red. This may not be sufficient to obstruct nasal respiration, and indeed, in my experience, it usually has not done so, and differs, in this respect, from an ordinary severe cold. Congestion may also occur in the ears, and give rise to earache, and this may go on to a severe inflammation attended with more or less danger to hearing.

Second dentition may produce like results, the rhinorrhea and otorrhea requiring constant attention. In this case, search should be made for small fragments of the milk-teeth that may adhere to the cavities, and if found, they should, of course, be removed. The eruption of the wisdom teeth often cause severe disturbances. There may be inflammation of the pharynx and tonsils, and also of the gums. The jaw-bones may be involved, and even necrosis occur, from the severity of the inflammation. The nose, too, occasionally shows the

influence of this irritation. There may be developed an obstinate rhinitis, or, if there is any preëxisting catarrh, this may be greatly aggravated. Affections of the autrum of Higlimore are not uncommon, and Sexton says that some of the most protracted and intractable cases of acute purulent inflammation of the middle ear he has ever seen, have been associated with the cutting of a wisdom tooth.

The eruption of the teeth is a physiological process, and, therefore, the resulting irritations cannot be said to depend upon diseased conditions. We have now to inquire what diseases may give rise to these irritations. In cases of catarrh, we should ascertain the condition of the teeth (*a*) as to the indications of inherited disease, as scrofula, syphilis, and the like; (*b*) as to the collections of tartar upon them; (*c*) as to any sharp processes that may produce fissures or ulcers on the tongue or in the mouth; (*d*) as to their soundness, whether they are loose or exhibit any evidence of necrosis; (*e*) as to whether there are any concealed fangs left on extraction; (*f*) for completeness or deficiency in number, in cases of dysphagia, to be possibly accounted for by imperfect mastication, "bolting" of the bolus, and consequent fatigue and paresis of the pharyngeal constrictor; and (*g*) for the crowding or any irregularity in their formation.

These are some of the diseases affecting the teeth that require correction; other irritations arise or are dependent upon incomplete or illy-directed efforts to correct them. I refer to the poor adaptation of dental plates or fillings. This subject is of no less importance than the diseased states themselves. Fillings that are so badly adapted as to irritate the gums or lips, may produce harmful results. There have been cases also where the fillings were placed in cavities before the necrosed parts were thoroughly removed. In this way, they shut up foreign particles that give rise to most distressing reflex disturbances. Plates, also, that are not well moulded to the parts are serious evils. If placed upon carious fangs, or over-inflamed gums, they not only increase the irritation by contact, but prevent the escape of the foul secretions, and thus expose the patient to septic poisoning. The material used in the construction of the plates may give rise to reflex troubles. It is stated that the vulcanite plates are dangerous, especially when colored by the sulphide of mercury.

Many other sources of irritation will, no doubt, occur to you. These are mentioned to illustrate, in a general way, the proposition that, as the sources of irritation are numerous, the reflex phenomena resulting therefrom are also of great number. What are some of these reflex disturbances? In the first place, there is pain—the various neuralgias of the face and head—pain also in the throat, ears, and

even in the chest. Cough is not infrequent. Acute inflammation may result, or a chronic inflammation be aggravated. This may be seen in the larynx, pharynx, and tonsils, in the nose and the ears. In the nose, there may be a simple swelling of the mucous membrane, persistent in character, and giving the unpleasant sensation of "stuffiness;" or a muco-purulent inflammation may be observed. The autra of Higlimore may be involved, and give rise to distressing symptoms. In the ears, we may have trouble ranging from pain to an acute purulent otitis. In the catarrhally disposed, or where there is any existing disease of these parts, reflex disturbances are more easily manifested. Chronic disease is aggravated, and not infrequently acute attacks are superimposed. In this latter case, of course, the symptoms are more intense, and relief more difficult.

A description of these diseases would be out of place in this paper. It is sufficient to simply call attention to the causative relation the teeth bear to them.

Thus far we have considered that an oral irritation may develop or aggravate a catarrhal inflammation of the upper air-tract; let us now inquire if the contrary may not be true also. Will not disease of the nose, throat, and mouth hasten the development of disease in the teeth? To this question you would be more competent, perhaps, to give a satisfactory answer. Considered theoretically, it seems not only possible but probable. And, indeed, my observations lead me believe that it is true. Certain it is that the patient with catarrh, if questioned closely, will often tell you that the teeth seem to decay very rapidly. Whether the disease of the teeth or the disease of the other organs appeared primarily or not, or whether they are both dependent on some general cause, may be difficult to determine in a given case, but it often can be determined in a satisfactory manner. I believe that if more attention was given to disease of the upper air-passages, including with them the mouth and ears, there would be less disease found in the teeth.

In considering this subject, therefore, we see that a duty rests upon the dentists as well as with us. When patients come to us with any disease in the air-passages, we should in our examination include the condition of the teeth. If they are found to be diseased or malformed, we should advise them to have such disease or malformation corrected, at the same time explaining our reasons for such advice. On the other hand, when you observe patients to suffer from any of the many troubles we have referred to, they should be told the importance of having such disease properly treated. Not only should this be so, on both sides, from the influence that these diseases may have

the one upon the other, but also the influence they may have upon the general health. This latter subject is referred to incidentally, as it is without the scope of this paper, but should always be borne in mind.

In closing, I desire you to consider this paper as suggestive. It does not aim at an exhaustive presentation of the subject. The literature referring to it is too slight, and my own observations not yet sufficiently formulated, to accomplish that. This may be called a preliminary note, suggesting a standpoint from which to pursue further studies. The causes of disease are complex and subtle, and while we do not yet know them all, let us follow any light that may help us to a better understanding of our work.

The conclusions of this paper may be presented as follows:

I. Oral irritation is a factor in the causation of disease of the upper air-tract.

II. This irritation results from any disease or malformation of the teeth, and also from an incomplete and improper adaptation of fillings and plates.

III. Disease of the upper air-tract may be a causative factor in the production of the diseases of the teeth.

IV. The recognition of the reflex influence of the diseases of these organs is an important step in their diagnosis and treatment.

273 Franklin Street.

THE PATHOGENESIS OF EPILEPSY.[1]

By ARTHUR E. MINK, M. D., Rochester, N. Y.

There is no disease of more interest, and none which has afforded more food for speculation, than epilepsy. Pathological anatomy has been ransacked to furnish for it a seat and a cause, and so high an authority as Esquirol considered the cartilaginous plates which he found in the arachnoid of some epileptics as the anatomical cause of the disease. Irregularities are sometimes found in the crania of epileptics. The crania are sometimes too large, and sometimes too small, and in some cases the skulls show a more or less prominent asymmetry. Behrend found the occiput of epileptic children to be considerably flattened. Müller, among forty-three epileptics, found normal crania only three times, while Rieken has shown that the right half of the skull remains in a lower state of development than

1. Read at the annual meeting of the Monroe County Medical Society, May 29, 1889.

the left. Hoffman states that just the opposite is the case. In later times, Benedikt has made some cephalometric researches on the crania of epileptics, and has found that, in 120 epileptics, 70.8 per cent. show an atypical condition of the skull. As regards the pathological conditions found in the interior of the cranium, there are the same conflicting statements. Hardly any two observers agree. Follet asserts that the two cerebral hemispheres show an important difference in weight, and he is confirmed in this by Bucknill and Echeverria. In some cases, stenosis of the foramen magnum has been found, and Nothnagel asserts that this is well calculated to cause, by pressure or other influences, an attack of epilepsy. Lesions of the meninges, such as thickenings, adhesions, and exudates, are among some of the most frequent conditions found in epilepsy. Lately, Meynert has confirmed the dissections of older authors regarding the presence of atrophy and sclerosis of the cornu ammonis, but it is by no means a constant lesion, and Bourneville has found many cases without it. So much for the pathological anatomy of epilepsy, and for the conflicting statements found therein. For us, all of this discord is sufficient to convince us of this one fact, viz. : That epilepsy is not an individual disease, but only a symptom, of which the various pathological conditions which have been found can each be a cause under various circumstances. They act by being what Hughlings Jackson calls "discharging lesions," and that is by setting up in the grey matter of the brain a state of abnormal irritability. A very slight stimulus then suffices to liberate a sudden discharge of nervous energy. In the ordinary state, the protoplasm of the nerve-cells is in a condition of unstable equilibrium, and under the excitus of normal stimuli it liberates its energy in the form of moderate and coördinated nerve discharges. Now, the various pathological conditions act as a cause of epilepsy, by inducing a condition of hypermetrition in the nerve-cells of the motor centers ; so that only the slightest stimulus is needed to liberate and cause that sudden discharge of nervous energy known as an epileptic attack. We hold that, in the light of modern cerebral pathology and physiology, the old distinctions between idiopathic and traumatic epilepsy must be done away with. Now, the state of morbid irritability of the cortex can be brought about by various pathological processes, and we can define epilepsy as a sudden discharge of nervous force from the grey matter of the brain. But it is here that the doctrine of cerebral localization, as in so many parts of cerebral pathology, has been of such immense importance, although, long before, Hughlings Jackson had anticipated some of its most important facts on clinical grounds alone. He also made a great advance

by his distinction between destroying and discharging lesions. It was not until 1872, however, that Hitzig gave experimental proof of these ideas, by not only showing that electrical stimulation of various portions of the brain called forth various movements, but also that pathological processes of various kinds set up in the cerebral motor centers were capable of producing so-called idiopathic epilepsy. Ferrier next showed that strong electrical stimulation of the motor centers produced, first, unilateral convulsions, or what is now called hemispasms or Jacksonian epilepsy. He found that these rapidly became general convulsions.

These facts and experiments have all been confirmed by various observers. Eulenburg and Landois have produced epileptiform convulsions in dogs by mere chemical irritation of the motor centers. Albertoni has produced the same by electrical stimulation of a circumscribed area near the crucial sulcus, and Kolman-Balogh speaks of no less than eight centers, the strong stimulation of which produces general convulsions. Luciani has made some interesting experiments in regard to dogs made epileptic by various injuries done to the cerebral cortex. He has found that when he extirpated the motor centers, that those parts which are supplied by these remained free from convulsions. Indeed, after a short time, he states, the animals regained the normal control of all their muscles.

Pitres and Franck extirpated, in the same manner, the motor centers from dogs, and found that in a short time the cortex in the neighborhood of these centers became inflamed, and that only a slight stimulus would cause epileptiform convulsions, although the parts whose centers were extirpated remained free from convulsions.

There has been, of course, hardly any opportunity to verify these facts in an experimental way upon the human subject, and the only one who has had the opportunity and the boldness to do so was our own Roberts Bartholow. He had a woman whose brain had been laid bare by cancerous ulceration. He stimulated the motor region, and produced general convulsions; but, a short time after, the woman died. All of these experiments are conclusive evidence, to our mind, that epilepsy is a symptomatic phenomenon, caused by various lesions which act as discharging lesions, and thereby produce a sudden explosion of nerve energy.

As we have said before, there are many pathological conditions which can produce epilepsy. Cerebral trauma, cerebral anemia, syphilis in all of its various forms in which it affects the brain, can each in turn become a cause of epilepsy.

Among the various contributing causes to an epileptic attack is cerebral anemia.

Long ago, it was known that animals bled to death exhibited epileptic convulsions, and Travers and Marshall Hall believed it to be the chief cause of epilepsy. Astley Cooper tied the carotids of animals and produced epilepsy, and recently Kussmaul and Tanner have shown how important a factor is cerebral anemia.

Nothnagel has shown that there are secondary spasm centers in the pons and medulla, and the researches of Schroeder Vander Kolk on the medulla oblongata of epileptics, is yet a classic. He found strong evidences of hyperemia of the fourth ventricle, ecchymoses at the nuclei of the vagus and hypoglossus, and dilatation of the vessels in the substance of the medulla and about the olives. But these observations in no way conflict with the discharge theory,—in fact, the yare in perfect consonance with it.

For the primary discharges from the cerebral cortex, in passing down the centrifugal cerebral tracts, thus excite the secondary spasm centers in the pons and medulla, and these then assist in causing the epileptic attack.

54 Park Avenue.

Translations.

SOME NEW LANOLINE OINTMENTS.

By E. STERN, M. D., Mannheim, Germany. Translated from the *Therapeutische Monatshefte* for the Buffalo Medical and Surgical Journal by DR. ERNEST WENDE.

For the past three years, in continuation of experiments previously made, I have employed lanoline in the treatment of the various diseases of the skin, instead of the fats ordinarily used in compounding ointments. The following preparations will be characterized more especially for their newly-tested combinations:

I.—SAPO-LANOLINE.

The so-called preparation consists of lanoline anhydricum and sapo-kalinus, first suggested by Prof. Liebreich as a substitute for mollin. The object is not to obtain the result of a soap containing an excess of fat, but simply an effect upon the integument from its recognized two-fold action. The mitigation of the soap with lanoline will be found an acceptable adjunct. The proportions which I generally order are sapo. two parts, lanoline two and one-half parts. Excepting salicylic acid, all usual medicaments such as boracic acid, tar, white precipitate, resorcin, etc., can be incorporated. The employment of

ointments prepared in this way have the greatest advantage in the treatment of inveterate infiltrated eczemas, against all forms of dermatomycosis, as well as in cases of seborrhea, accompanied by an excessive formation of crusts and epidermis. In psoriasis capitis I most frequently apply the following formula:

R—Hydrarg. precip. alba 10.00
Sapo. kalin. 40.00
Lanoline, anhydr. 50.00
M.

It is an established fact, in spite of the progress made in the therapy of psoriasis corporis since the introduction of the goa-preparations, the treatment of the psoriatic scalp has remained unchanged. Chrysarobin, apart from its usual ill-effects, does not in any way seem to influence the diseased scalp as favorably as the acknowledged process on the body. In two well-defined cases I failed to master this disorder, although the scalp, under proper precautions, was well rubbed in and thoroughly anointed three times weekly with a 25 per cent. ointment. The eruption on the body disappeared quickly upon a 20 per cent. application. Anthrarobin, recently introduced by Behrend, was found still milder in action, besides possessing the property of discoloring the hair. The result upon the head, with pyrogallic acid, is just as feeble as upon the skin elsewhere. Sapolanoline, impregnated with white precipitate, constitutes a remedy the effect of which upon the scalp is not less rapid or brilliant than that produced by chrysarobin upon the body. The accumulated crusts will disappear, after its application, from three to eight days. The patches will assume a smooth, white aspect. All that now remains necessary is the daily washing of the scalp, and the employment of an indifferent ointment, preferably lanoline cream, in order to relieve the slight tension and to bring the scalp back to its normal condition. I have never observed a discoloration of the hair with this method. The frequent reddening of the hair on using spirit saponat. is mostly due to the spirit.

II.—LANOLINE UNGT. ADHESIV.

From the frequent occurrence of eczema of the head and face in children, the need of a means by which remedies might be held upon the skin without dressing, suggested itself to my mind. Owing to the cutting of pieces, their adaptation, and the application of a bandage, an advocate of the ointment dressings formerly in vogue will find that that method is exceedingly inexpedient and a waste of time. Neither do the pastes recommended during the last decade suit me.

They contain large quantities of powder. Although indifferent, they settle on a skin robbed of its epidermis. They are removed with difficulty, producing a mechanical irritation which does not compensate for the advantage of desiccation. It was only in chronic indolent catarrhal affections of the skin that I could testify with a certainty to a favorable result. In the construction of a fatty paste which is to adhere without further dressing, I have taken advantage of Lassar's idea, so beautifully demonstrated in his powder paste. Such a paste requires a temperature higher than the skin, and must be composed of perfectly indifferent fats or fat-like substances. This can be easily accomplished with a mixture of cera flava, lanoline, and some oil, as—

℞—Cer. flav. . . . . .
Lanolin, anhydr. . . . . aa 40.00
Ol. olivæ 20.00
M. f. pasta usque ad refrigeret, agitand.

This preparation has a bright yellow color, and a thick, greasy consistence, resembling somewhat the sticking-wax of hair-dressers. It can be readily spread on the skin in rather thick layers, which adheres like a plaster, hence the term ungt. adhesiv. A hand rubbed with it appears as if it were covered with a kid glove.

This paste, which is perfectly neutral, is intended to serve as a basis. Most ingredients can be mixed with it without apparently altering its consistence. When tar is to be incorporated, the constituent of wax should be increased. Where an ointment dressing cannot be conveniently applied, I invariably use this paste either alone or in combination with boracic acid or zinc oxide,—especially in eczema of the face in children. Although somewhat slower in action, it renders the same service of protection, maceration and aid for the formation of epidermis. Generally after eight or fourteen days, depending somewhat upon the severity of the case, the application of tar may be commenced. I do not deem it necessary to speak of the advantage gained for both physician and patient with an application as convenient as this.

The addition of salicylic acid has a splendid effect in the treatment of squamous and vesicular varieties of eczema.

℞—Acid salicyl. 3.00
Ol. olivæ 17.00
Cer. flav. . . . . .
Lanolin anhydr. aa 40.00
M. f. paste.

Salicylic acid, in this form without a cover, more or less impermeable, displays its kereatolytic qualities in the mildest manner.

III.—FLUID LANOLINE-INJECTIONS.

Upon the supposition that lanoline will adhere to mucous membranes, I concluded that by a liberal addition of oil it might be used as an injection. Owing to the property of absorbing water which cholesterin fat possesses, it was possible at the same time to inject remedies in solution. Salicylic acid was naturally dissolved in oil. Thus we have the formulas:

1. R—Lanolin anhydr. 25.00
   Ol. amygdal. 75.00
   M. (Basis-injection.)

2. R—Zinc sulph. 0.5
   Aquæ 4.5
   Lanolin anhydr. 20.0
   Ol. amygdal 75.0
   M.

3. R—Acidi salicylici 0.25
   Ol. amygdal 75.00
   Lanolin anhydr. 24.75
   M.

The injection is to be made with the ordinary p. p syringe.

The injection employed as a basis on being retained in the urethra for five to ten minutes has an exceedingly soothing effect, and lessens the irritation. Twenty-four hours later, fat globules may still be found in the urine. This long retention explains its favorable influence upon the gonorrheal process. I use the "basis-injection" in the first stage of gonorrhea. After eight to ten days, an antiseptic or an astringent drug is mixed with it, and I finally wind up with 1½ per cent. solution of resorcin in water.

Lanoline injections may also be employed to good advantage in chronic urethritis anterior.

This method has nothing in common with Tommasoli, who injects a solid ointment by means of a specially devised syringe.

A "PHYSICIAN of eminence," in London, is said to have called kissing one of the most common causes of the spread of disease, and to have also intimated that the practice itself is a disease. Indiscriminate kissing of babies and general promiscuous kissing is certainly dangerous and to be discountenanced, but we should dislike to see the "disease" altogether eradicated. Our theory is that we have to suffer a certain amount of disease in any event, and this being so, we prefer to acquire it in this way.—*Times and Register.*

Clinical Reports.

A CASE OF FETUS PAPYRACEUS.[1]

By E. W. MULLIGAN, M. D., Rochester, N. Y.

NOVEMBER 21, 1888, called to see Mrs. L———. She was having abdominal pains, intermittent in character, coming about once in a half hour. She told me that she menstruated last the latter part of May, 1888. This would show pregnancy of six months. I concluded that she would be delivered in due time, that she was mistaken regarding time of last menstruation, as her abdomen was very large, and, as she had made no progress, I left her, telling the nurse to send for me when pains became more severe and rapid. I did not see her again until February 28, 1889, when I found her *again* in labor, and this time her abdomen was much smaller than when I saw her three months before. But now there was no doubt about it; the os was well dilated, and head presented. In about an hour she was delivered of a ten-pound boy, and, immediately following this, a dead fetus, well preserved. The dead child was flattened out, so that it took up but little space. It was, I should judge, a six-months' fetus. The cord was slightly attached to the border of the placenta. I now made enquiry concerning her sickness when I last saw her, three months previously. She said that soon after I left her, the bag of waters broke, and almost a pailful of clear fluid escaped. After this, the pains subsided, and she went about her duties as usual. It is plain to be seen that this was a case of "the survival of the fittest." At my first visit, both children were in all probability alive, but, after the rupture of the sac and escape of the amniotic liquid, one died. If this had not occurred, we would have had a miscarriage, and probably lost both. This is of interest to show that a dead fetus can be retained in the uterus for three months, and no harm come to the mother. Lusk describes this condition of things, and says that the dead child may be aborted, while the living fetus advances to full term of gestation.

DOUBLE VAGINA AND UTERUS.

I also wish to report a case of double vagina and uterus occurring in the practice of my associate, Dr. Jonas Jones. I saw and examined the case with Dr. Jones. The patient, a well-developed young woman, aged twenty-five years, married two years, without any children. The

1. Read at the meeting of the Monroe County Medical Society, May 29, 1889.

external genitals are normal. The vaginas are situated side by side, the opening to the left one being a little above the right. They appear to be about the same size, but the right one having been used, received the speculum more easily. Each uterus is two and a half inches in depth, and the os normal in both. She has had two miscarriages in past three years, miscarrying each time when two months pregnant. Skene describes a similar case in his work.

Society Proceedings.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Regular meeting of June 4, 1889,—the President, Dr. Alvin A. Hubbell, in the chair.

The following question was discussed:

In view of the various causes of insanity, do the insane receive the best medical and surgical treatment under the present system of asylum management? If not, how can such treatment best be secured?

Dr. Charles A. Ring—All that relates to insanity as one of the questions of social science confronting the public, to the insane as a class, and to the individual patient, insane, arouses the most intense interest, anxiously searches for instruction and guidance, and demands attention for immediate relief.

Accompanying, side by side, are suspicion and distrust—the one a malign shadow to the community, holding many under its influence; the other destroying that confidence which all hospitals and asylums should rightfully possess.

As indicated, the community is three-fold: the layman, with or without the ties relating to the patient; the family physician, watching over the interests of the patient at home, and the various officials and boards protecting, as far as able, the patient in his commitment; and third, those having the care or the custody of the patient. What are the relations of each class, their responsibilities, and their rights? The right of the community to knowledge of its local institutions is absolute, and is formally recognized in the reports of officials. These reports are generally regarded as complete, as far as they go, but technical. Practically, this knowledge is obtained through the press, which generally correctly states the conditions of affairs; and the opinions formed thereon accurately represent the community. It is a

sad comment that is raised by the fact that of all the surreptitious introductions of reporters into asylums, not one has produced reports which are creditable to the institutions. Recently, Nellie Bly, for the New York *World;* Charles W. Beck, for the Chicago *Times;* and George W. Symonds, for the Philadelphia *Inquirer*, have given the public information which will be used with profit.

From knowledge comes the direct display of power possessed; and wisdom determines the responsibility of institutions.

Second. The family physician and the official boards.

Reliable statistics show that, of the insane committed to and admitted by State asylums of this State, over fifty per cent. are either chronic or incurable cases. Here is certainly a most deplorable exhibit, a large part of which is placed directly upon the family physician, with what fairness I shall leave them to determine. In many chronic cases, and in those of acute character where delay has existed, the public is obliged to exercise the right of protection.

This right of protection, which any citizen possesses, the public has not formally extended to the insane individual, so that he may himself be protected from the ravages of disease. To state the case mildly, I will call this the advanced opinion of many, which I will not bring into conflict with the home treatment of the patient.

It is estimated that it costs ten times as much to maintain a chronic case through its average of twelve years as it does to cure an acute curable one.

If the public accepts this advanced opinion, it must furnish hospitals for the insane as unexceptionable in public opinion as are the general hospitals of any large city.

The relations of the physician to the public are many and complex. Those which look toward the enlightening, prevention, and protection are especially interesting. Meetings like the present, with its subject-matter for presentation and discussion, should be considered as especially valuable, and the information obtained be made available.

Public demand has led to the creation of various offices and boards having relations with the dependent classes. These officers have accomplished much good work, secured many reforms, and advocated advanced opinions. The most prominent are the State Board of Charities, and the State Charities Aid Association, with their local delegations. The recent change from one to three State Commissioners in Lunacy, with the many requirements of the Act, shows the constant advance.

Third. Institutions for the insane.

These should be of two distinct classes: one of hospitals for the acute curable cases or of doubtful character; the other, custodial.

The fact that only about twenty-five per cent. of cases admitted recover, should lead to distinct and prominent individualization of the patient who is susceptible of improvement to a marked degree, or of entire recovery.

There should be a very full resident medical staff, and also consulting physicians and surgeons. There should be numerous attendants, who should be well paid, well instructed and disciplined, and who should be, socially, the peers of the patient under care.

The custodial cases require surroundings that shall be homelike and yet afford every facility for rendering themselves as nearly self-supporting as possible.

It has been stated by good authority that the institutions for the insane of this country are not equal to those of similar classes in Europe. It is well that the defects are kindly pointed out and criticisms made. The suggestions should be received in the same spirit, and promptly carried into execution.

Where doubt and distrust exist, those mingling with the public should inform those responsible for the institution, so that its course may be changed and it enter upon the career of usefulness intended. If, after the utmost endeavor, the highest results are not attained, steps should be taken to change the system.

Without reference to the causes of insanity, I am of the opinion that the insane—curable, incurable, and chronic—do not receive the best treatment and care. As indicated, I believe that public confidence must be restored. There should be mutual respect and coöperation.

The present system of management must be modified in many particulars to secure the desired results.

Dr. James W. Putnam—To answer the first question affirmatively, is to assert that a human system is perfect, not susceptible of further improvement. Any one who has watched the progress of political science has noticed how one system has in time given place to others. In medicine we have abundant opportunity of seeing how ephemeral a history many medical fashions have had.

Methods of treatment formerly universally practised are now practically abandoned, either because the type of disease had changed or because new and better methods had superseded the old.

This has been the case in all branches of medicine. Surgery has been revolutionized by the introduction of antisepsis. Gynecology has had its fashions. Ophthalmology, since my graduation, has been greatly modified by the introduction of cocaine.

When we come to study the history of institutions for the care of

the insane, we find as marked changes in this as in all other departments of medical thought. Ever since Pinel's broad humanity removed the chains from the insane, modification in the methods of treatment has been the rule. And who among us shall say that now we have reached the top, and now we have the best medical and surgical treatment under the present system of management? To say that, is to arrest all attempts to improve. It is mental stagnation. Let us consider the situation for a moment.

A large institution for insane men and women, numbering in our asylum about 460 persons—to take care of them is a superintendent, whose duties are executive and medical, and to aid him in this work are three assistants.

A patient on entering the institution is carefully questioned as to his hereditary and clinical history and personal habits, religion, etc. Pulse, temperature and respiration are noted, and the patient is sent to the proper ward. If the past history of the patient is important, how much more so is the present condition? It would be of great value if, in addition to the record already taken, we should be able to read the report of an examination of the urine, the lungs, the heart, the eyes, and the report of a gynecological examination of all female patients with symptoms of pelvic disease.

Such an examination would be of immense value, as it would bring to light any local conditions which affected the general health, and so give better opportunity to build up the general health in a more definite manner than by giving the constitutional bitter tonics, and iron and cod-liver oil.

As the State now provides, it is impossible to give patients the thorough special examination outlined. The assistants, skilled in diagnosticating the mental state, are, with very few exceptions, able to make accurate examinations of the eye. More of them are able to make gynecological examinations.

Nevertheless, it is unsafe to assume that in all asylums we will always find physicians holding the appointments, who have the proper training for such special work as has here been outlined.

The benefit to the insane resulting from the gynecologists' treatment has been briefly told in a valuable paper by Prof. Reed, read before the Alumni Association of Niagara University, April 9, 1889. Although I agree with Prof. Reed in his opinion, I do not go so far as to adopt his substitute. He says: "This brings me to my final suggestion: Abolish the superintendent and assistant system, and instead appoint a staff made up of representative specialists, supplemented by an adequate corps of house physicians."

This, to my mind, would not be a step in advance, but, on the contrary, one in retrograde. There is a great power of control, great wealth of experience, great moral tone, given to an asylum by a superintendent like Dr. J. B. Andrews, of the Buffalo State Asylum for the Insane. I believe in appointing medical superintendents, but I believe in relieving them of their executive duties.

To conduct the general treatment of the patients in the asylum, I believe the appointment under civil service rules of young men to the positions of assistants inspires confidence in the public and insures good service. Knowing from personal experience what the requirements of an asylum are, I know that the house staff of a general hospital is entirely inadequate to the demands of an asylum.

My proposition would be to appoint a surgeon, an ophthalmologist, and a gynecologist, who should visit the asylum once a week and examine all new cases, and let them institute such treatment as they found necessary.

These appointees should be paid by the State, their work should be special, and would in no way interfere with the general treatment by the asylum resident staff. In this way we would insure against such charges as that made by Dr. Reed: "The staff wait for these cases to die to find out what is the matter with them," and we would secure to the patients all the benefits of specialism.

Dr. H. R. Hopkins—It is not my purpose, in any remarks which I shall offer to the Association this evening, to attempt to traverse the entire subject embraced in the question under discussion; but simply to emphasize certain impressions which have gathered in my mind during twenty years of study and observation upon this matter, impressions which have crystallized into convictions and beliefs by recent review of the literature of this subject.

One of the gentlemen who preceded me has very properly called attention to the fact that, in the nature of the case, perfection in the treatment of insanity is not attainable. It is not, therefore, necessary for me to detain the Society in any elaboration of this apparently axiomatic truth. As we, therefore, can probably easily agree that improvement in the treatment of insanity may be achieved, it is to our particular purpose to give a moment's thought to the lines upon which, or over which, this improvement may come.

The relations of the unfortunate insane to the people of the State of New York, and to the profession of this State, first took shape by an Act of the Legislature passed in the year 1788, entitled "An Act for Apprehending and Punishing Disorderly Persons." It is worth while in passing to stop for a moment to remark that this law of 1788 was

founded upon the English law enacted in the year 1744. The condition of the public mind at this time is illustrated by a simple reference to this act of 1788. The "disorderly persons" which were to be apprehended and punished included fortune tellers, tramps, mountebanks, common prostitutes, and the insane.

The conditions of the insane, under this unfortunate procedure, were such as at this day can scarcely be conceived. The law empowered two Justices of the Peace to apprehend the insane, to confine them in suitable places,—if necessary, in chains,—in order that the public might be protected from them. The thought that the insane person was a sick person requiring treatment does not seem to have had any position in the public mind of this date. In the year 1836, the Medical Society of the State of New York, representing the medical profession of the time, memorialized the Legislature in terms at once accurate, emphatic and eloquent, calling attention to the fact that an unfortunate class of our citizens, the insane, demanded in the name of humanity recognition and suitable treatment.

As a result of this memorial, laws were enacted establishing State asylums and hospitals for the insane, and from this time, to the medical profession at least, the insane man has simply been a sick man requiring intelligent treatment addressed to his malady. Previous to this time, as the law plainly indicated, the insane man was a strange compound, partly criminal, partly demoniacal, and altogether too horrible for anything save chains and the dungeon.

This is the year 1889, and yet it is necessary to call the attention of this Society, and of the medical profession which this Society represents, to the fact that in the management of the insane, we have retained certain demoniacal residua. Our statutes and our usages still provide, that before an insane man can be subjected to suitable treatment, the machinery of the courts has to be invoked, and he has to be committed, to an asylum to be sure, and yet this asylum is abundantly supplied with locks, bolts, bars, handcuffs, straight jackets, camisoles, and various methods of treatment hardly compatible with the idea that the insane is only a patient needing medical treatment. Is it not time, Mr. President and gentlemen, that the medical profession asserted itself and recognized, in fact as well as in theory, that the insane is not demoniac, but only ill? Could anything be more absurd than for a medical man of this day to apply to the courts for permission to treat a case of inflammation of the eye, to place a patient suffering from inflammation of the eyes in that condition where injurious influences are to be excluded from him; or, in case of a fractured femur, to invoke the machinery of the law to enable him to place such

restraint upon the patient as experience has demonstrated is necessary to his proper recovery? For myself I can see no lack of similarity between the requirements of one suffering from an inflammation of the eye, or suffering from a fractured femur, and one suffering from mental disease; and it seems to me that it is for the medical profession to assert that it has no conception of an insane man other than as a patient requiring relief, and that the medical profession is in a situation to demand that there shall be no circumlocution, no embarrassments placed between the most enlightened treatment and the suffering citizen in need of such treatment.

This brings me to a suggestion which I would like to make to the Society, and that is, that it is not expedient that the care and management of the insane of any community be placed in the hands of a few individuals of the medical profession. In my judgment the members of the medical profession at large are the safest custodians for this responsibility, and I would suggest for the consideration of this Society the propriety of recommending that every hospital have attached to it a suitably prepared ward for the reception of the acutely insane. To these wards, so equipped, patients should be admitted with no more circumlocution than pertains to the admission of patients to the surgical ward, the lying-in ward, or any other department of a well-equipped hospital. If statistics have ever established any fact in medicine, they have established the truth that early treatment in the history of insanity exercises the most hopeful influence over the case. One of the speakers who preceded me has very appropriately called attention to the fact that of the patients received at any of our asylums a large percentage are chronic cases. In these cases the best opportunity for cure has been lost, and what is the reason why so many cases only reach the asylum when the acute stage has passed? I will not undertake to state to this Society all the reasons which operate in these cases. I will simply refer to one, and that is the stigma which rests upon the judicial commitment of an individual to an insane asylum. This stigma is well known and dreaded, and it is from this stigma—this asylum stain—that the acutely insane should be relieved. I am absolutely convinced that if the insane could be sent to properly appointed hospitals for the same reason that the sick in general are sent to such hospitals, the proportion of insane coming under early treatment would be manifestly increased, and that most expensive and hopeless class of dependents, the chronic insane, would be correspondingly diminished.

In regard to the question of the improvement of our present method of treatment of the insane, I would also suggest that, in every State institution, the diseases of the insane, the varieties of insanity, should be

taught to the medical students and to the medical profession who wish to avail themselves of such opportunities. To my mind it is another instance of demoniacal residuum that the wards of our asylums are closed to the extent they now are. Let us look upon these wards as places for the treatment of the sick, and they immediately become suitable fields for clinical observation and instruction. In my judgment, the importance of this step in the effort to secure an improved treatment of the insane cannot be over-estimated. The staff of any insane asylum which shall also be the faculty to teach the diseases of the insane, will not be found wanting in the methods of diagnosis, or in the application of remedies for the relief of their patients. Again, no visiting committee, no committee of inspection will more thoroughly introduce the outside world to the life of the asylum than will the clinic of medical students gathered from all quarters of our population. To my mind, the importance of this step is manifest alike to the managers of our asylums and the unfortunates in whose interests our asylums are established and maintained.

One more thought to which I would like to invite the attention of this Association, in criticism upon the present treatment of the insane, is that the line of promotion in the staff of the insane asylum runs away from contact with the patient. I can illustrate what I mean in this direction, perhaps, no better than by referring to the conditions surrounding the young practitioner of medicine. During the first year of this young gentleman's experience, he does well if he sees patients to bring him in $500 income. With good behavior on his part, this income steadily increases year by year, little by little, until, after ten, fifteen, or twenty years, he comes to enjoy a full practice. During this period of waiting, ample time has been given him to study, to reflect, to observe, to assimilate, and to become competent. In the asylums, matters are very differently arranged. The young man, fresh from the lecture-room, takes a position of junior assistant at the asylum, and is placed in almost absolute control of 200, 300, or 400 insane. To be sure, he has over him a senior assistant and the superintendent; but, in my judgment, the fault of the system lies in that the members of the staff nearer the head have more and more of their time engaged in purely administrative work. In many instances, in the case of the superintendent, his entire time is so engaged. Not only do the affairs of the institution for which he is responsible demand of him a large portion of his time in administrative work, but his opinion is frequently sought as an expert in important cases before the courts; and in other ways his engagements are so numerous that the individuals under his care, who are expected to receive, and who

should receive the immediate benefits of his experience and ability, see but very little of him. In my judgment, the time will never come when the practice of medicine can be done after the manner of wholesale business; when the superintendent of an asylum can say: "Let us treat our cases of acute mania after this order, of acute melancholia after that plan, of chronic melancholia after another fashion; let us surround our dements with such-and-such a treatment and atmosphere;" but, in my judgment, it will remain the fact that effective work can only be done by the study of individual cases, where the strength and the efficiency of the individual practitioner is brought to bear upon the individual peculiarities of a given case. It would seem to me that the medical profession is in a situation to demand, in the presence of facts, that the purely executive and administrative work of our asylums be done by individuals other than the medical staff.

As a result of some little experience with various asylums throughout the country, and from the impression gathered by some little study of the subject, your speaker is persuaded that there is too much idleness, too few employments, too little incentive to labor, exercised in the management of the chronic insane. In the first year of my professional experience, spent in one of the leading insane asylums in the country, the impression was firmly fixed in my mind that a suitable incentive would lead to large returns in the way of labor on the part of the insane, by seeing the squad which daily left the asylum to labor upon the farm and in the fields of the place, under the incentive of a daily ration of tobacco. The question of cottage farms, of diversified and various labors,—labors which in their nature are light and can be made attractive,—are questions upon which the medical profession should have clear ideas.

A further criticism, which my observation suggests, upon the treatment of the insane is that, in the management of our asylums in general, too much use is made of such remedies as chloral and bromide of potassium, the various narcotics, and sedative remedies, to the exclusion of more rational means of medication; such, for instance, as are included in an intelligent hydro-therapeutics. It would seem that this latter system of medication is one singularly adapted to great institutions, where the facilities are readily at hand. If it were the custom of our various asylums to state in their annual reports the amounts of the various narcotic and cerebral sedatives used in the different institutions per year, I think it would be but a short time before some enterprising institution would make the experiment of the habitual use of the hot bath, the cold bath, the hot and cold douche, the hot-air bath, the steam bath, and the various appliances of modern

hydro-therapeutics, to the end that great economy was observed in the use of the more powerful drugs, and at least an equally good showing in the column of recoveries and improvements.

In conclusion, I would call attention to the fact that no system of treatment of the insane can ever be thoroughly successful which does not pay great heed to the character of the attendants who coöperate with the medical staff. In this connection, it gives me pleasure to cite the instance of the training-school for nurses instituted in our State asylum. Such a step should receive at the hands of the medical profession every possible commendation and support. In this connection, I would also refer to the desire on the part of the women of our community to take a more active interest in the management of our asylums for the insane. In my judgment, it is a move in the right direction, and one that the medical profession should further at every opportunity. So long as the insane require nursing, will women continue to furnish the most desirable material for nurses. To them only can we look for that degree of patience, of tact, of devotion, that aptitude for consecration which this work demands. I should be proud to see this Society recommend to the public that the work of nursing the insane be placed in the hands of women whose lives are devoted and consecrated to this work. It would be suitable for society to encourage such women by every possible commendation and support, and it would seem to me that the efficiency and the perpetuity of the service would be enhanced by demanding of candidates for this work vows of celibacy and vows of obedience.

Dr. A. W. Hurd, referring to a point of a previous speaker, spoke, first of the limited applicability of "home treatment" of the insane. In cases of wealth and proper surroundings only can violent patients be taken care of at home. Friends must make of their house a hospital for the insane for the time being, with trained nurses and constant medical attendance, if they are to do as well for the patient as the best-equipped hospitals of to-day. While lunacy retains its dangerous features,—dangerous to the individual and to society,—so long will institutions be a necessity for their care and restraint.

Further work in the present line of improvement and betterment of hospitals for the insane seems to be the method in which we are to expect the best results, rather than in new and startling innovations.

A resident medical head, a man of responsibility, experience, and training, is a necessity for the proper discipline and working of an asylum; and no staff of consulting physicians, visiting at intervals, can have that intimate knowledge of patients and nurses which is necessary to secure the most efficient service and results. In this, as

in other matters, the man who devotes his life to one study and object is better fitted than he whose time is largely taken up with other interests. But the commendable practice is rapidly growing, especially in asylums located in cities, of appointing a consulting staff of specialists. In the Buffalo asylum the city specialists are frequently and freely called on, when their services are needed. In this respect, institutions located near cities have great advantage over county asylums, or those remote from medical centers, who have not ophthalmologists, gynecologists, surgeons, etc., within easy call. Those county asylums in which the number of patients is not sufficient to warrant the employment of a resident medical officer, should be abolished, and their patients put under constant medical supervision. Another step in the right direction is the greater knowledge demanded of candidates for appointment as assistant physicians. The following questions of a recent Civil Service examination in this State for such positions indicates that the successful candidate must be possessed of an average if not *more* than ordinary ability :

1. In what part or parts of the brain must a lesion be situated in order to cause motor aphasia?

2. In what part to cause sensory aphasia?

3. In what part to cause left lateral homonymous hemianopsia?

4. What is meant by the term "Jacksonian epilepsy?"

5. In what part of the brain must a lesion be situated which causes attacks of convulsive movements commencing in the right foot and extending up and involving the right leg and thigh, and then extending to the right arm and right side of the face, unassociated with loss of consciousness, but associated with a steadily increasing weakness and awkwardness of the right leg?

6. How would you determine the point of the skull to trephine in order to reach the lesion producing the symptoms described in the preceding question?

7. What are the symptoms which lead you to consider a patient insane?

8. What are the early symptoms of "General Paresis of the Insane?"

9. What are the lesions of "General Paresis of the Insane?"

10. Mention some drugs or poisons which produce transitory attacks of insanity, and some of the characteristic symptoms of each variety.

11. What relation do attacks of epileptic insanity bear to the convulsive attacks, and what symptom is common to both?

12. What points of difference are there between the mental depression occurring in melancholia and that which may occur in chronic delusional insanity?

13. Give the differential diagnosis between hematocele, hydrocele, varicocele, and scrotal hernia, and the treatment of each.

14. What is "Potts' fracture?"

15. How would you reduce a dislocation of the shoulder?

16. On what theory is the use of antiseptics in surgery based?

17. Give the differential diagnosis between small-pox, scarlet fever, measles, and chicken-pox.

18. Give the physical signs of the three stages of pneumonia.

19. Give exact directions for the disinfection of typhoid fever stools.

20. Give the treatment for acute articular rheumatism.

21. How would you treat a case of placenta prævia.

22. Give the pathology and treatment of puerperal eclampsia.

23. Give the physiological effects of belladonna; of digitalis; of chloral.

24. What is the poisonous dose of each of the drugs mentioned in the last question?

25. Give the various tests for sugar in the urine, and explain the chemistry of each.

Politics should not, as in some States, enter into asylum management, and no staff of physicians, devoting themselves to this specialty, should feel that their labors were to terminate in case the dominant political party should fail at the next election. Such a State policy does not tend to attract the best medical talent to the specialty.

The care of the insane is improved by the instruction given in the training-schools for attendants which are now being established so generally in hospitals for the insane. The placing of female nurses on the convalescent male wards is an advantage, and worked for the welfare of the patients. The speaker believed this system was only fitted, however, for the quiet and *not* for the disturbed wards, and could not at all agree with the view previously advanced, that no male nurses be employed in asylums.

As bearing on the subject of the welfare of the insane, the speaker spoke of the legislation on this subject during the past Winter, and read extracts from the new Lunacy Commission Bill, which has become a law, and the new bill for the commitment of the insane, which had passed both houses and awaited the Governor's signature.[1] In the new Commission Bill, that clause requiring every physician in the State,

1. NOTE.—The Commitment Bill has failed to become a law.

qualified by a judge as an examiner in cases of lunacy, to file such qualification with the Commissioners at Albany, was read as being of general interest to the profession.

The advantages of certain features of the new Commitment Bill, should it become a law, were commented on, viz.: the greater judicial character of the commitment, each patient being committed on the order of a court, and the clause which provides for the voluntary commitment of those numerous cases of nervous and mild mental disease who feel that they need the care and treatment of an institution, but shrink from the process of being examined and committed as insane, as is now necessary.

The subject was further discussed by Drs. Stockton, Crego, Hill, O'Brien, and Long.

The committee appointed to present a memorial on the death of Dr. Edward Tobie, reported as follows:

"In full vigor of health apparently, and in the midst of a large practice, Dr. E. Tobie died on the 12th of May last, so suddenly that the painful event could scarcely be realized by his many friends.

"Dr. Tobie was known as an indefatigable worker, with a devotion to his patients rarely excelled. He was a good citizen, true and generous, and as a physician well-informed, skilful, and successful, commanding as such the most implicit confidence of his patrons, to whom his demise is a great loss sincerely lamented.

"To his many friends, both lay and professional, the Buffalo Medical and Surgical Association desire to express their high estimation of his value as a physician, and to testify their sorrow in his sudden and untimely death. To his family they tender their unfeigned and heartfelt sympathy.

"Signed,

"JOHN HAUENSTEIN,
"JOHN D. HILL,
"F. A. BURGHARDT."

Correspondence.

MASSEY'S ELECTRICITY IN THE DISEASES OF WOMEN.

Editors Buffalo Medical and Surgical Journal:

GENTLEMEN—In a criticism of my work on "Electricity in the Diseases of Women," which was made the basis of an editorial in the April number of the JOURNAL, certain statements appear which clearly demand attention at my hands, and you will confer a favor upon me by granting space for a reply, as well as for an expression of

my thanks, now extended, for the commendatory portions of the review.

Is it presumptuous, on my part, to hint that the comprehensive editorial "we" shields in this instance the shoulders of a young and enthusiastic manipulator of the knife? Not to mention external and accidental evidences, it is more than apparent that the criticism on which the editorial is based, was not written by one practically conversant with electric currents, and we may safely take it as the first critique on the work yet appearing from the hands of an ultra-surgical extremist; and from this point of view it deserves particular consideration. As the production of an opponent of all electrical applications in gynecology, it is somewhat inconsistent that the unqualified condemnation expressed in the last paragraph should be preceded by the seductive statement on the first page:

"The want of such a treatise has long been felt by the general practitioner, and to this class of the profession it should be practically valuable."

Now, as to the particular sins of this voluminous but largely misguided critic, I must complain first and most emphatically of the charge of dishonesty contained on page 549, in which the insinuation is made that only picked cases showing good results are given. A disinterested reader of the work would certainly arrive at a different conclusion, and even the critic's complaint of some poor results reported, shows the impartial nature of the clinical reports.

Among other evidences of the critic's total want of comprehension of currents and their powers, is the remarkable statement he makes that meters are unnecessary. He quotes the author as saying that it is "criminal to use a galvanic current (through insensitive mucous membranes) without adequate means of knowing the amount actually passing through the patient," and proceeds to disagree with this statement, alleging that by the author's admissions the sensations of the patient furnish the real indications. Would the critic banish scales from the drug-store merely because patients differ in susceptibility to drugs? Is there no use in knowing how much quinine or opium is given when we can watch for cinchonism or narcotism? If we are to take sensations as a guide, let the critic give us a standard scale of sensations. The writer's experience is that the comparison of such psychological conditions is extremely difficult. He has seen the same evidences of pain from fifteen milliampères in one woman as were produced by 350 in another. Surely such arguments are more than puerile. Their animus is apparent further on when the critic dwells with complacency on the fact that electricity gives pain as well as the knife. Strong currents do hurt some at times, it is true, but whether

too much for the results gained, may be safely left to the judgment of the patient. The complaints of the surgeons about them are somewhat amusing.

The critic objects to the statement that an interchange of particles occurs in the interpolar regions. Is he not aware that the passage of particles through the body from pole to pole may be demonstrated? The facts of electrolysis are a proven portion of pure physics.

Among the clinical reports contained in the work, he is apparently more at home, but his painstaking analysis of the cases would do him greater credit if he were not so apparently anxious to misunderstand and misjudge the author's claims at every step. In spite of the prominence given to the following sentence in the preface: "It should be stated also that the author does not wish to assume the position of recommending the routine use of any one agent or procedure, to the exclusion of other rational remedies in the medical or surgical treatment of any single class of diseases. It was merely in the interest of clearness and accuracy that many of the cases mentioned in these pages were confined to electrical applications alone," he charges "a disposition to claim any and everything in the most reckless manner," although inadvertently admitting further on that some cases reported simply show a slight improvement and are still under treatment. The cases were reported as encountered; and as the author was not then examining into the virtues of hot water, ergot, purgatives, etc., he confined his attention to the agent under consideration. The results were largely satisfactory to both the physician and patient, and it is hoped that their faithful, though somewhat tedious, portrayal in the work may be of benefit to the profession. The remote history of each case, so far as obtainable, will be given in a future edition.

Assuming again the role of an electrical expert, the critic intimates that the author must be unfamiliar with Apostoli's more recent writings, when acute inflammatory affections, particularly perimetritis, are still cited as absolute contra-indications to the use of *strong currents*. That the currents mentioned by Apostoli are *faradic*, seems to have escaped him.

But, to mention but another item in this elaborate attempt at picking flaws, the reviewer quotes, in connection with the subject of extra-uterine pregnancy, the author's statement that after electrical feticide "two courses are open to the surgeon, either laparatomy for the removal of the dead mass, which is now more easily performed, or a mere promotion of the efforts of nature in removing the mass by absorption," adding, "if electricians are going to advocate lapa-

ratomy to remove the dead mass, the profession will no longer pay any attention to their inconsistent protests against also removing the living mass." In this he differs widely from no less a surgical authority than Gaillard Thomas, who says (*Amer. Sys. Gyn.*, Vol. II., p. 191,):

"Unless the imminence of rupture render feticidal efforts hazardous and delay for this purpose inadvisable, the life of the fetus should always be destroyed prior to fetal viability before laparatomy is resorted to. After fetal death, from the very instant that it is accomplished, diminished vascularity rapidly establishes itself, and every day, every hour, renders the chances of a subsequent operation better."

The reviewer is wrong, too, in setting up the necessity of a diagnosis as a pre-requisite to electrical feticide. Currents, such as advised, may be employed at the first suspicion of this unfortunate condition, and will do no harm whatever to the mother if the suspicion is without foundation.

I trust, Messrs. Editors, that after this exposition of the groundless nature of these complaints, you will permit me to avail myself of this opportunity to call attention to an important omission from the pages of this little work, pointed out by another reviewer, Dr. Franklin H. Martin, of Chicago. In giving directions for using the incandescent electric-light current of the Edison variety, I failed to mention, what was then unknown to me, that the Westinghouse Company have a number of *incandescent* installations in various portions of the country in which an alternating current is used. Such currents are, of course, thoroughly inadmissible for this purpose, and may be dangerous even in reduced strength. The Edison current is perfectly safe.

Very truly yours, G. BETTON MASSEY.

1706 WALNUT STREET, PHILADELPHIA.

COMMENTS.

We are very decidedly of the opinion that it *is* presumptuous on the part of the author of the above letter to hint "that the comprehensive editorial 'we' shields, in this instance, the shoulders of a young and enthusiastic manipulator of the knife." By what right does a man presume that any responsibility lies elsewhere than with the journal which publishes an editorial? And we think it doubly presumptuous for a man to insinuate all that is implied in the expressions, "young and enthusiastic manipulator of the knife," "ultra-surgical extremist," etc., especially when the suspect stands in precisely the same position as his opponent. Does Dr. Massey forget

that the difference in age between himself and his suspected[1] critic may be counted by weeks? Is it possible for him to have overlooked the fact that he is not only a young man himself in years, but that he has had only about a year and a half or two years' experience in gynecology? Does he think a man can have obtained, in so short a time, so thorough a knowledge of gynecology as to write a book on the subject, and presume to speak with the authority he does thereon? And, these things being true, can he be surprised that there is some hesitation in accepting his extreme opinion based on such a *very limited experience?*

We hardly see how we can be justly accused of being an "opponent of all electrical applications in gynecology," when such an expression as "important branch of gynecological work" is used in this connection, and as we have elsewhere spoken of the valuable results obtained by this remedy. Nor do we see the slightest inconsistency in the paragraph quoted by Dr. Massey and the final paragraph in our editorial review. Our meaning is clear, and it is incomprehensible how it could be misunderstood. If for the words "*should be*" Dr. M. will substitute "*ought to have been,*" he will surely comprehend the full import of the sentence.

We see no dishonesty in Dr. M.'s having picked his cases to illustrate his points; he seems to be hypersensitive on this subject. It is customary, as well as perfectly right and proper, for an author to select the most illustrative cases possible in support of any given assertion. That these cases were picked is quite evident, but it had been quite as well had some failures been given; not that we do not think many of them were failures, but they are not given as such.

We have little additional to say about the use of the meter. Our quotations from Dr. M.'s book show conclusively that he uses the patient's sensations as his guide. He now says he "has seen the same evidences of pain from fifteen milliampères in one woman as were produced by 350 in another," and offers this as proof that the meter is an absolute necessity. Where the pain is all the woman can bear with fifteen milliampères, he must stop, whether he looks at his meter and sees the register or not. The pain is what makes him stop, not the meter. And so it is with the 350. He stops when the pain is reached, not because the meter registers so many milliampères. He asks, "Would the critic banish scales from the drug store?" etc. "Is there no use in knowing how much quinine or opium is given?" etc. If we are allowing the patient herself to administer the drugs, then it becomes absolutely necessary to know how much they are taking. But here, in applying electricity, the physician himself, with

1. Unless we are sadly at fault in our guessing.

his own hands, makes the application. Who of us have not pushed quinine to cinchonism, or opium to narcotism, without caring one jot how much it took, guided only by the results? Have we not done it frequently, and with perfect confidence and safety? And so it is with electricity. He who would give it arbitrarily, in such-and-such doses, irrespective of symptoms, would be an unsafe man. Again, is it necessary to be perfectly familiar with all the technicalities of currents and their powers, as assumed by Dr. M.? By no means. We all constantly violate such rules daily. Who knows anything about antipyrin, and who does not constantly use it with the best results, and with perfect safety? And so it is with many other therapeutic agents. Such knowledge is desirable, but not necessary.

In regard to interpolar action, we must still differ with Dr. M. We do not care one whit for the opinion of any man unless it is well backed by proof. Now, what proof does the author offer us of this much-disputed point?—for to assume that it is settled is absurd. He simply quotes from, and refers the reader to, the experiments of Inglis Parsons (*British Gyn. Journal*, May, 1888, p. 78). To show how Parsons is made to prove something which he himself says he does not prove, and which he also says is only "conceivable," the readers of the JOURNAL are referred to the original article of Inglis Parsons, and also to a review of Dr. Massey's book, published in the *Annals of Gynecology* for June, 1889, p. 416, where these experiments are gone into in detail, and the misconstruction clearly shown.

Dr. M. upholds his opinion as to the propriety of treating extra-uterine pregnancy, first, by electricity, and then to perform laparatomy, and quotes Gaillard Thomas in support of this view. He also still holds that if a mistake in diagnosis be made, no harm will be done the mother. Harm can readily be done the mother, and the reader has only to refer to page 193 of the author's book to see that in the case of papillomatous cyst he himself had to stop the applications in order to save the patient's life. It is unnecessary to here produce further proof of this fact, although it would be easy to show an abundant quantity, and, no doubt, Dr. M. could tell many such experiences himself. The time when the *ipse dixit* of any man can be set up as law has passed, and with all due respect to the experience of Gaillard Thomas, we *do not* agree with him in his conclusions. What is of importance to us is: On what data are his conclusions based? This consists, principally, of two papers read before the American Gynecological Society in 1882 and 1884. He here reports twenty-seven cases. Any one reading this report will be struck by the

frequency with which his diagnosis was disputed by others; how often he was doubtful of his own diagnosis; even where the diagnosis was made, how very seldom a *post mortem* was made to prove it; how often a rupture had taken place before electricity was applied or even the diagnosis made; on what slight signs the diagnosis was arrived at; in fact, the whole chain of evidence presented is so poor that it is by no means satisfactory or convincing. Advanced by a less eminent authority, the evidence presented to back his opinions would not even be seriously considered. It proves not a single conclusion to which the author has arrived. On the contrary, daily experience and well-authenticated results are rapidly bringing the profession to an opposite opinion. To say that it is proper to first kill the fetus and then remove the débris, is to acknowledge one's self incompetent to safely deal with a tubal pregnancy primarily by surgical means. There are few competent abdominal surgeons who are forced to make such a humiliating admission. Even with all the evidence in favor of the electrical treatment before him, an equally eminent gynecologist (Goodell) pronounces for the knife.—*The Editors.*

How to Clean Hypodermic Syringes.—Syringes, whose canals have become obstructed so that a fine wire cannot be drawn through, are cleaned by holding them for a moment over a flame; the foreign substance is thus quickly destroyed and driven off. If a wire has been rusted into the needle, it should be dipped in oil before holding over the flame. To remove the rust from the interior of the canula, it is well to pass oil through the canula, then heating it; then rinse it out with alcohol. The needle is then ready for use.—*Deutsch. Med. Wochenschr., 1889.*

Cystitis in Women.—Dr. Thomas Moore Madden, of Dublin, treats severe cystitis in women by dilatation of the urethra. This permits a continuous outflow of the secretions. In many cases, this treatment, together with mild washing of the bladder, will effect a speedy cure. If not, the fundus and neck of the bladder should be wiped off with a tampon of cotton soaked in carbolized glycerine and inserted through the dilated urethra. The use of cocaine will relieve all pain caused by this operation.—*Medical and Surgical Reporter.*

BUFFALO MEDICAL AND SURGICAL JOURNAL

A MONTHLY REVIEW OF MEDICINE AND SURGERY.

EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

THE AMERICAN MEDICAL ASSOCIATION.

WHEN we wrote last month of the Newport meeting of this Association, we were of the opinion that nothing could grow out of that meeting to mar its delightful memory.

But the following extract from the letter of the special correspondent, "P. B. P.," of the *Journal of the American Medical Association*, published in its issue of July 20th, demands some comment, namely:

"The election of Dr. E. M. Moore, of Rochester, as President of the American Medical Association, meets with much enthusiasm here, and, aside from the fact that nowhere in the profession could there be found one more eminently qualified by natural gifts and special culture to fill the position with dignity and grace, *it is felt that the selection is in some sense a recognition of the loyalty of that portion of the New York profession which has always stood true to the National colors*, and of which Professor Moore is one of the most distinguished ornaments."

We have italicised that portion of the paragraph to which we take exception.

It would appear, it seems to us, in the minds of all right-thinking persons, that it is high time that the childish prattle of this "P. B. P." should be suppressed. We are now at a period in the history of American medicine when it is about time to drop all politico-medical jugglery, and settle down upon the broad platform of science. One of the reasons why the Newport meeting was one of the best, if not the very best ever held by the American Medical Association, is that it divested itself for the nonce of every appearance of vindictiveness, and there were certainly no acrimonious debates upon questions foreign to the real purposes of the meeting. Those questions which none but the smaller minds in the high councils of the Association care one whit about, did not come to the surface for discussion.

The vast majority of the men who were present at Newport were intent only upon doing good work, caring very little who wielded the gavels in the several meetings, or what the Judicial Council considered in closed session. The men present from New York were from both State medical organizations, working in harmony for the general good, and particularly for the honor of American medicine. It is true that Dr. Moore has been an officer in the New York State Medical Association, and it is also true that the men of that faction supported him with earnestness; but it is equally true that the men of the Medical Society of the State of New York, who were present, worked with just as creditable zeal to the end that Dr. Moore might occupy a position which his learning and talents entitled him to, and which he would long ago have held had it not been for the indiscretion of just such men as "P. B. P."

We yield to no man in our admiration for Dr. Moore. We have said that he is an ideal surgeon, and we go further and say that we believe him to be an ideal man. He is the one man of all others in this broad domain, where great men in medicine are plentiful, to whom our eyes and thoughts turn in admiration and thankfulness that he has been elected to this high and honorable office; but at this particular juncture of affairs, when everything is tending to peace and harmony, when there are really no divisions in the State of New York on questions of a scientific nature, except such as pertain to honorable differences always among men, we repeat that it is in the very worst kind of taste for the *Association Journal* to retail the puerile utterances of its paid correspondent, "P. B. P.," who presumes to speak by the card for everything that is "good and loyal" amongst the medical profession of the State of New York.

The senseless editorial on page 164 of the *Journal* for February 2, 1889, was allowed to pass in comparative silence, as far as the medical press of the State of New York was concerned, and after its stinging rebuke by the editor of *Progress*, we did think that we should see no more writing of that sort in its columns. We happen to know that the trustees of the *Journal*, or at least some of them, disapproved of that editorial, and we hope that, at least while they are assuming its editorial control, they will see to it that "P. B. P." and all of his kidney that have to do therewith in any way, are duly suppressed.

THE *St. Louis Weekly Medical Review* begins Volume XX. with its issue of July 6, 1889, in an enlarged form and with newly-arranged pages. In its present size it resembles the quarto weeklies of the eastern cities, while its subscription price is maintained at $3.50 a year.

VOLUME XXIX.

With the present number, the Journal begins its twenty-ninth volume in the new series. It will be observed that we have made some changes in its make-up that will result in affording more reading matter, as well as in improving the general appearance of the magazine. The additions to our staff of Associate Editors cannot fail to prove of advantage, and is the immediate result of the combination with the *Medical Press*, that has heretofore been announced. Though we part with Drs. Angell and Crego, to whom the Journal is indebted for efficient work, we expect our readers will hear from them as frequently as their busy lives will permit.

Without boastful promises, we yet enter upon the work of preparing the new volume with high hopes for its successful career; to which end we invoke the support and sympathy of the medical profession of this immediate vicinity, and of our readers, wherever resident throughout the world.

THE STREET-CAR AND THE PUBLIC HEALTH.

When we called attention to this important subject in the columns of the Journal last March, we were confident the Board of Health would take some action looking to the improvement of the street-car service in this city. Failing to observe any such action up to the present time, we feel it a duty to again invite that body, which is the conservator of public health both as to prevention and cure, to this important and even burning question. We see no good reason why this Board should not require a rigid inspection of the street-cars, to the end that they be properly ventilated and warmed in Winter, and otherwise kept in a proper sanitary condition. Thousands of people daily ride in these cars, which, in their present condition, are, no doubt, a source of infection and contagion-carrying during the cold season, thus becoming a constant menace to public health, as well as a source of individual suffering.

One great evil is the musty hay used in Winter to deceive the passengers into the belief that their feet are kept warm thereby,—an *ignis fatuus* that dazzles to betray into the mire of pedalic refrigeration, besides serving as a source of filthiness that is disgusting to contemplate.

The *Northwestern Medical Journal*, in a late number, has discussed the relations of the street-car to the public health so ably that we feel warranted in reproducing the editorial entire:

THE STREET-CAR AND THE PUBLIC HEALTH.

No question is of greater importance to the public health of great cities than the proper construction and interior arrangement of street-cars, for they have come to take the place in our modern civilization largely of all other modes of conveyance in our great metropolitan centers of population, because of cheapness and adaptation to the wants of the traveling public, and yet with all their excellencies, there are many defects in arrangement and management very detrimental to the health of the patrons.

Not sufficient caution is taken by the officials to prevent persons from traveling who have infectious diseases, and very often persons with small-pox, measles or other contagious diseases, are found mingling with others in a crowded car, thus endangering the public health.

We know several instances of this kind, in this city, of persons on the car giving every evidence of disease which could be conveyed by such contact as could not be prevented in a crowded street-car.

If a person boards a car bearing the first evidence of contagious disease, it should be the first duty of the conductor to find out the truth in the matter at once. A notice posted in the car warning such persons against riding would be in place.

The company should make and enforce strict rules in a matter so closely related to the public welfare.

Too great caution cannot be exercised on the part of street-car officials.

Another menace to the public health is the crowded condition of the cars.

Too few cars are run to accommodate the public, and often age and youth, strong men and invalids, are packed in a small, tight car, for a long time.

Many, unable to stand, are obliged to do so, and health, and sometimes life, are both endangered, and the management, after having once secured their franchise, seem quite indifferent to the complaints of the people.

If a company are[1] able to build, equip and run a paying street-car line, they ought to be compelled by the municipality to put on cars enough to comfortably seat the traveling public, or exact no fare from those obliged to stand. Men who have stood all day at their work, ought not to peril health by being obliged to stand all the way to their homes.

It amounts almost to an insult to the public to exact fare when no seat is provided by the company. Again, too little care is exercised on the part of conductors in looking after the comforts of the patrons. Often in cold weather sickly persons are exposed to unnecessary drafts of air, and lay the foundation of incurable disease.

If cities like Minneapolis give a street railway exclusive franchise to operate, they ought, also, to compel attention to the comfort and safety of the public, from the management.

It would be well for city boards of health to give more attention to the close relation of city railway equipment and management and the public health. The same arguments will hold, also, when applied to steam railway cars and management in most particulars, although greater improvements are made for physical comfort and health on the part of steam railway management. We hope the time approaches when all the defects alluded to will be corrected.

This intelligent presentation of the subject applies with equally cogent force to the street-cars in this city, and even much more might be added without probing our case to the bottom.

1. So in original.

We return to the subject thus early, that ample time may be afforded the Board of Health to put the necessary machinery in operation to correct the evils pertaining to this great public calamity before cold weather sets in, and much irreparable damage done.

We hope before new franchises are granted to any company, the city authorities will take such action as will protect itself against a repetition of the dangerous conditions complained of, and which are allowed to continue by the present monopoly without heed.

THE PRESTON RETREAT.—Dr. A. Lapthorn Smith, of Montreal, who lately paid a visit to Philadelphia, writes a most pleasant letter to the *Canada Medical Record*, published in the July number, in which he thus describes this model maternity:

"On my arrival I proceeded at once to the 'Preston Retreat,' at 500 North Twentieth street, and reported myself to Dr. Joseph Price, the Medical Director. Perhaps I had better explain what the 'Preston Retreat' is. An old Dr. Preston, many years ago, left a large amount of money in the hands of trustees for the purpose of building and endowing a model maternity institution. The funds at their disposal were so considerable as to place absolutely no limit on any expenditure which might be necessary in any way towards reducing the death-rate of midwifery cases; so that as science suggested improvements from time to time, the trustees have carried them out. The position of this institution is peculiar. First of all, only married women are eligible for admission. Second, it has a paid resident physician; not paid in the ordinary sense of the term, such as two or three hundred dollars a year and board, which would be thought a large sum in Canada or England for such an officer, but paid to the extent of some five thousand dollars a year, with a magnificent private residence free. For these inducements they can get one of the best men. When I say that Goodell held this position for twenty years, only resigning it two years ago, when Dr. Joseph Price was appointed, you will admit that nothing is spared in that direction. And when I add that each confinement costs the nice little sum of two hundred dollars, including a six week's stay in the Retreat, you will see that it has everything in its favor to make it a model establishment. It has one other peculiarity which contributes enormously to its success, namely, it has no students coming in from the dissecting-room and surgical wards to carry death on their fingers. A series of 500 confinements has just been published without a death, although among them were fifty-two cases of instrumental delivery, many of the mothers having contracted pelves. There was one case of placenta prævia, three of twins, also several face and breech presentations. The secrets of success seem to be absolute cleanliness of persons and surroundings, and abundance of water, soap, and pure air. As a rule, but one digital examination is made. As the head passes through the vulva, the attendant washes the child's eyes with a piece of jute moistened in sublimate solution, so that there has only been one case of ophthalmia neonatorum in 500 births. Immediately after the delivery, the vagina is washed out with clean boiled water, injuries to the vulva are at once repaired, the clothes are changed, an antiseptic pad applied to the vulva, and the patient is put to bed in the ward. As soon as a ward has received its

tenth patient, another ward is opened up, and when it is full, another. In the meantime, the patients are moved out of the first ward at the end of ten days, so that in twenty days from its opening all the patients will have passed on to the convalescent ward, while the first ward is thoroughly cleaned out and left to air until its turn for occupation comes around again. Every two hours a laundry girl makes the rounds of the hospital with a closed basket, and gathers up all soiled linen and takes it off to the laundry, which is situated in a separate building. There are no water-closets in the house, but at the four corners of the main building there are detached towers, connected with it by galleries closed in with glass in Winter but open in Summer, and in these towers are placed all the baths and water-closets. The wards are so placed as to have three sides exposed to the air and sunshine. The mattresses are filled with straw, which is put fresh into a clean tick for each patient. Instead of napkins, antiseptic pads are used to absorb the lochia. They are made as follows: a napkin of soft loose-textured cotton is laid on the table; on it is placed a sheet of waxed paper, which any one can make; then a handful of sublimated jute is laid in the center, then a layer of absorbent cotton, and finally the napkin is caught up at the sides with a few threads. Several hundred of these are kept in stock, and, of course, they are burned when soiled. It is not often that we are able to carry out our ideal of what things should be, but in the case of the Preston Retreat there is nothing to prevent it from being a model maternity, and it is one. Every mother must nurse her child, which is put to the breast as soon as it is washed, and Dr. Price tells me he has never seen a suppurating breast.

"It may be noticed that the ratio of forceps cases is very moderate, about one in ten, which is probably another secret of success. The temptation to use them must be very great, for the attendant is allowed to engage in private practice, and is one of the busiest men in Philadelphia. On the evening of my arrival, no less than three practitioners called in to engage his services in cases of laparatomy, for it is in this branch of gynecology that he is best known. He is an ardent follower of Tait, believing that abdominal section is the best, quickest, and safest treatment for nearly all diseases of the female pelvic organs. Thus, ovarian cysts, fibroid tumors, malignant disease, adherent ovaries especially if prolapsed, enlarged tubes especially if adherent, pyo-, hydro-, and hemato-salpinx, extrauterine fetation should all be treated by removal alone. Especially does he abhor electricity in every shape and form. He is a young man, probably less than thirty-five, quick in speech and action, with deep-set eyes, which give him an intensely earnest expression. He began his career in the out-patient department of the Pennsylvania Hospital, after having been a pupil of Goodell. He first came into notice by reason of his success in abdominal sections performed at the domiciles of the poor, often in the filthiest courts and streets in the city, his results being better than is usually obtained in the best appointed hospitals. He was enabled to do this by organizing a voluntary nurses' association, composed of young ladies who would go to a rickety house the day before an operation and make the patient and her rooms clean, the former with soap and water and the latter with whitewash. This association also supplied a clean bed, bedding, and night clothes. Others took charge of the patient on the day of the operation. Instead of chemical disinfectants, he uses distilled water, with which he freely floods out the abdominal cavity. The day after my arrival he took me to see some of his cases. One of them, a case of vaginal hysterectomy performed at a private boarding-house, was in charge of a nurse, a bright young girl of nineteen or twenty, whom he asked to show me her watch. He had promised to give her a gold watch if she succeeded in nursing forty-five cases of abdominal section in which a drainage-tube had been inserted without a

death. These were all cases in which there had been serious adhesions and a good deal of oozing, which this faithful girl had removed every half-hour with a syringe until the tubes were no longer required. The fact was duly inscribed on her watch, of which she was justly proud. Dr. Price tells me that he will have no nurse who was trained before he got her. He wants an intelligent, fairly educated young girl, without any professional knowledge, whom he puts to work at once under the direction of a more experienced one, whom she relieves at stated intervals. I should say, however, that he presents each with two or three good books on nursing. He never attempts an operation without one or two of these young girls to take the case in hand afterwards. As he performs an operation two or three times a week, he must have a number of them on hand. He sends them out to the mining towns around Philadelphia, where, in the miners' cottages, they have often to make their bed on two or three chairs, but they never murmur. It is a pleasure to see him operate, for two or three reasons. One is the smallness of the abdominal incision, which is barely large enough to admit two fingers of the left hand. The intestines are never seen. Another pleasure is the rapidity with which he operates, between six and ten minutes being the average. And the third noticeable feature is the fewness of his tools; the same little scalpel which has done over two hundred sections, three Pean's forceps, one blunt Peaslee's needle armed with a boiled silk ligature for the pedicle, and a triangular needle with the same for the abdominal sutures. I was almost forgetting what, in his estimation, is one of the most important of all, an enameled iron funnel, with a good-sized tube and a perforated silver-plated round-ended tube with which the cavity is washed out with boiled or distilled water. This irrigator is introduced to the very bottom of Douglas's pouch. Absolutely nothing is given during the first twenty-four hours, no opium, not even a drop of ice-water. If the patient has not passed flatus at the end of that time, small doses of Rochelle salts are given until she does. It may be asked, Is there not too much of this abdominal section? Assuredly there is. But I must say this, I did not see one case operated on in which there was not grossly evident disease of the tubes or ovaries, or else a firm binding down together of these organs by localized peritonitis. Dr. Price insists upon visitors remaining after the operation long enough to see the specimen floated in water, when the long shreds of torn adhesions become strikingly evident. He is a firm believer in gonorrheal infection of the tubes and peritoneum, and where this could not be, then a "dirty" confinement is blamed for these cases."

Society Meetings.

THE AMERICAN SOCIETY OF MICROSCOPISTS will hold its meeting for the current year in the Buffalo Library Building, in this city, August 20th, 21st, 22d, and 23d instant. The active preparations now making by the Buffalo Microscopical Club for the reception of the visitors, presages a large and successful meeting. Let all our citizens take pride in entertaining this distinguished body of scientific men and women.

The American Association of Obstetricians and Gynecologists will hold it next annual meeting at the Burnet House, Cincinnati, O., in the rooms lately occupied by the Military Order of the Loyal Legion, on Tuesday, Wednesday, and Thursday, September 17, 18, and 19, 1889. No formal invitations will be issued to non-members, but the Association hereby extends a cordial invitation to such members of the profession wherever resident as may feel interested, to attend the meeting and participate in the proceedings. The papers and discussions will embrace subjects pertaining to obstetrics, gynecology, and abdominal surgery.

By order of the President.

WILLIAM WARREN POTTER, *Secretary.*

Medical College Notes.

The Faculty of the College of Physicians and Surgeons of Baltimore held a meeting last week to fill the vacancies created by the deaths of Professors John S. Lynch and Oscar J. Coskery, and the retirement of Professor A. B. Arnold, who has removed to San Francisco. Prof. Thos. S. Latimer was transferred to the chair of principles and practice of medicine and clinical medicine; Professor Chas. F. Bevan to the chair of principles and practice of surgery and clinical surgery; Professor J. W. Chambers to the chair of operative and clinical surgery, and Professor George H. Rohé to the chair of obstetrics and hygiene. Professor Thos. Opie will continue as professor of diseases of women, and dean of the Faculty. To fill vacancies created by these transfers, new professors were elected as follows: Professor Henry Sewall, of the University of Michigan, to the professorship of physiology; Dr. George J. Preston to the professorship of anatomy, with the diseases of the nervous system as a clinical branch of instruction. Dr. N. G. Keirle was elected as lecturer on legal medicine, in addition to his demonstrations in pathology; Dr. George Thomas as lecturer on diseases of the throat and chest; Dr. G. A. Liebig, Jr., of Johns Hopkins University, lecturer on medical electricity, and Dr. J. H. Branham, demonstrator of anatomy. Drs. L. F. Ankrim, Frank C. Bressler and F. G. Moyer were appointed assistant demonstrators, and Dr. R. G. Davis, prosector of anatomy. Professor Sewall, who comes here from the University of Michigan, is an old Baltimorean, and was for several years demonstrator of biology in Johns Hopkins University. All the other appointees are residents

of this city. As an evidence of esteem on the part of his colleagues, Professor Arnold was elected emeritus professor of clinical medicine on his retirement.

The Medico-Chirurgical College of Philadelphia.—The following changes in the faculty have been announced: Frank Woodbury, A. M., M. D., Honorary Professor of Clinical Medicine; William B. Atkinson, A. M., M. D., Honorary Professor of Sanitary Science and Pediatrics; John V. Shoemaker, A. M., M. D., Clinical Professor of Skin Diseases; James H. Anders, Ph. D., M. D., Professor of Hygiene, and Clinical Diseases of Children.

Dr. John Parmenter has been appointed Lecturer on Anatomy in the Medical Department of the University of Buffalo.

Obituary.

Dr. Ellwood Wilson, of Philadelphia, Pa., one of the distinguished ornaments of the medical profession of the period, died on Sunday, July 14, 1889, aged 67 years.

Dr. James B. Hunter, one of the surgeons of the Woman's Hospital of the State of New York, died at his home in New York City, June 10, 1889, aged 52 years. Dr. Hunter was a man of rare accomplishments, a conspicuous light in his chosen specialty, rendered distinguished service in the medical staff of the army during the late war of the rebellion, and was a member of the Military Order of the Loyal Legion at the time of his death.

Dr. Oscar J. Coskery, the accomplished professor of surgery in the Baltimore College of Physicians and Surgeons, died of phthisis in the city of his home on the 5th of July, 1889, aged 46 years.

The Brown-Sequard system of rejuvenation, though the hypodermic injection of testicular juices, is attracting the attention of the non-professional, or so-called secular press. Well, most of the overworked and worn-out editors need mental and physical rehabilitation, and we hope, in this new-found fountain of life, they will bathe and be restored.

Personal.

Dr. Edward Clark, City Health Physician, will attend the annual meeting of the American Public Health Association, to be held in Brooklyn, N. Y., October 22, 23, 24, and 25, 1889, as a delegate from the Buffalo Health Department.

The degree of Doctor of Medicine, *Honoris Causâ*, was conferred upon Dr. William Warren Potter, of this city, by the Kentucky School of Medicine, at its last annual commencement, held in Louisville, June 20, 1889.

Dr. W. G. Gregory, of this city, was elected President of the New York State Pharmaceutical Association at its recent annual meeting held in Binghamton.

Book Reviews.

Cyclopedia of the Diseases of Children—Medical and Surgical. The articles written especially for the work by American, British, and Canadian authors. Edited by John M. Keating, M. D. Vol. I. Illustrated; 8vo, pp. xiii., 992. Philadelphia: J. B. Lippincott Company. 1889.

It is almost surprising in these days of encyclopedic medical literature, that the department of pediatrics should have escaped so long. It is fortunate, however, that it has finally been taken up by such competent hands, for, in the work before us, both editor and publishers seem to have vied with each other in the production of a treatise of extreme excellence. The authors, too, have been chosen with discretion, and have written understandingly in their several branches.

As is already known through the announcements that have heralded the forthcoming of this work for several months, it is proposed to publish it in four handsome imperial octavo volumes of about 800 pages each, each to be carefully indexed, and the set to be completed in about a year. The volume at hand is the first of the series, and it is not an exaggeration to say that the publishers have more than fulfilled their promises in its production. It is printed on No. 1 book paper, in clear-faced handsome type, and its illustrations, as a whole, are most excellent in character. So much for the work in general.

Coming to the particulars of the present volume, the first thing to attract attention is the introductory chapter, written by that most

competent, erudite, and scholarly author, Dr. Abraham Jacobi, of New York. This chapter is an essay in and of itself, and should be carefully studied by every man interested in the management of children; and who is not?

Dr. Jacobi says (page 2) that "Pediatrics . . . is no specialty in the common acceptation of the term. It does not deal with an organ, but with the entire organism at the only period which presents the most interesting features to the student of biology and medicine. Infancy and childhood are links between conception and death, between the fetus and the adult. The latter has attained a certain degree of invariability. His physiological labor is reproduction, that of the young is both reproduction and growth."

Again, " . . . pediatrics does not deal with miniature men and women, with reduced doses and the same class of diseases in smaller bodies, but . . it has its own independent range and horizon, and gives as much to general medicine as it has received from it." True words, that deserve to be pondered.

The first general subject is naturally enough on the Anatomy of Children, and is written by Dr. George McClellan. This runs through forty pages, and is beautifully illustrated by photographs from life, frozen sections, and by drawings of dissections.

The article on Diagnosis, by Dr. James Finlayson, is one of the greatest importance here as elsewhere in medicine, and could not have been more satisfactorily handled. Here the student and young practitioner will find invaluable hints and instruction for their guidance in the initial management of their young patients; for this is a branch of practice that is especially beset with difficulties for the beginner.

The chapter on Outlines of Practical Bacteriology, by Edward O. Shakespeare, M. D., is a most interesting and learned discourse upon this important subject, but we hardly appreciate the necessity of presenting it in a work of this kind. It, too, is well illustrated, which adds much to the attractiveness and understanding of the text.

Maternal Impressions, by Dr. William C. Dabney, is a philosophical essay on the subject, but we think it might properly appear in a work on obstetrics.

A chapter that deserves especial study is that on The Care of the Child at and Immediately after Birth, in Health and Disease, by Dr. R. A. F. Penrose. We are glad to read here: "We apply this ligature (to the cord) . . . . as soon as the function of respiration becomes fully established—that is, when the child breathes well, and, in most instances, has cried lustily" (p. 237). This seems to us a most sensible statement on a point where there is some division of

opinion, but, all in all, it is about as safe practice as any. Dr. Penrose's instructions for dealing with the asphyxiated newly-born are clear, and bear the imprint of experience.

Infant-Feeding and Weaning are always vexed questions, but they receive most intelligent treatment at the hands of Dr. T. M. Rotch. The question of proper nutriment lies at the very foundation of the vast majority of the diseases of infancy, and cannot be too carefully studied by all who are called upon to minister to these little patients. The per cent. of infant mortality from improper feeding is truly appalling, and whoever contributes to its reduction by even a minute fraction is a philanthropist.

A closely-allied subject to the last is that of Wet-Nurses, and this has been dealt with by a most competent observer, Dr. William H. Parish. Though the chapter is short, it is full of practical thought, and its treatment is able.

Diet after Weaning, by Dr. Samuel S. Adams, is a subject akin to the preceding ones, and so very properly follows them.

The Nursing of Sick Children, by Miss Catherine Wood, is written by a person of experience in this direction, and one whose heart is in her work; else she could not discourse so ably, even touchingly, upon the subject.

The subject of Nursery Hygiene is of great importance in these days, when so many mothers relegate the care of their children to the nurse and the nursery. Dr. L. M. Yale gives some most valuable suggestions on this question, and no one is more competent to speak thereon than he.

Dentition and Puberty form the subjects of the next two chapters, written by Drs. John Dorning and Thomas More Madden, respectively. They are replete with teachings of value, and deserve the careful examination of the student to be appreciated. This closes the general subjects treated of in Part I.

We have not been able to treat of all the titles in this part, but have merely attempted to mirror the most important features thereof.

In Part II. the special consideration of the several diseases belonging to infancy and childhood begins, and the first group includes Fevers and Miasmatic Diseases.

We cannot at this time, nor does it seem necessary to, consider all the various titles of this part of the book in detail. It must be regarded as sufficient for us to call attention to the general fact, and let each subscriber to the series find out for himself that he has not invested his money vainly.

It were not possible to obtain perfection in the publication of such

a comprehensive work as this cyclopedia contemplates, but we are of the opinion that the editor, authors, and publishers have as nearly approached thereunto as can be done in a first attempt. The latest thoughts on many of the subjects will here be found, and every teacher and practiser of pediatrics must equip his book-shelves with this great work for reference and study.

Immunity through Leucomaines. By EUSEBIO GUELL BACIGALUPI. Translated from the second French edition by R. F. RAFAEL, M. D. New York: J. H. Vail & Co. 1889.

The author divides his treatise of 155 pages into three parts. In the first part he discusses his theory of immunity; in the second part follows the demonstration of the theory; and in the third part he explains some of the phenomena of infectious diseases by this theory.

In Part I., after discussing briefly the various existent theories on vaccination and immunity, he finds the explanation of the various phenomena produced by microbes as very unlikely. The starting-point which led him to a new path of reasoning was taken from a note of Mr. Ferran:

> The microbe does not reproduce in the cellular tissue, and its prophylactic action is due to a sort of accustoming or habituation of the organism to the active diffusible substance generated by the microbe.

It is not, then, the microbe more or less attenuated which produces immunity from a disease, but the substance generated by the microbe.

The author supports his thesis by several modes of reasoning, showing that in living organisms, whether animal or vegetable, the products of life are noxious to this same life. Applying this principle to the microbe, the excretory matter of the microbe, or leucomaines, renders its life feeble and finally causes its death.

The conclusions to be drawn are in keeping with this same fact. The state of immunity in an individual, whether having previously suffered from an infectious disease, or one in whom leucomaines have been artificially introduced, depends upon the leucomaines still present in the body.

Vaccination, to preserve from infectious disease, should, therefore, consist in introducing into the organism the leucomaines of the microbe that produces the disease against which protection is sought.

In Part II. follows the analyses of some of the infectious diseases in which vaccination has been attempted and proven successful. In fowl cholera, in anthrax, and in rabies, it is not the vaccine of the specific microbe in an attenuated form which shields from the disease, but the leucomaines of these microörganisms. Especially in the pro-

phylaxis of rabies the author dwells at some length, and in a clear and forcible manner shows that the leucomaines must be considered as the prophylactic agent.

In the succeeding chapters, the writer treats of the nature of inherited immunity, considers the various methods of vaccination, the attenuation of virus, etc.

Part III. is devoted to the explanation of some of the phenomena observed in the course of infectious diseases. Accepting the theory of leucomaines, the explanations offered appear quite plausible, and help to clear up some very intricate points. W. C. K.

Swedish Movement and Massage Treatment. By Prof. HARTVIG NISSEN, Director of the Swedish Health Institute, Washington, D. C. Philadelphia and London: F. A. Davis. 1889. Price $1.00.

The author begins his treatise by giving a short historical sketch of the gymnastic art as used in the treatment of various diseases. Bodily exercise, as a curative agent, was used in the earliest days; Æsculapius is said to have been the inventor, but Herodicus reduced it to a system, and made it a branch of medical science. It remained, however, for Ling, a Swede, in the early part of this century, to place "movement treatment" upon a scientific standpoint. The Ling system, or Swedish movement treatment, was soon adopted in many of the civilized countries, and Swedish movement institutes have been established in many of the larger cities.

The writer goes on to describe the various movements of the legs, arms, and trunk, as classified by Ling, their physiological and hygienic value, and their application to various diseases.

The chapters treating of the various movements are accompanied by numerous excellent illustrations, making the text at once clear and intelligible. Accompanying each description are recorded those cases in which the movement would be most likely to prove successful.

In the chapter on Diseases and their Treatment, the author takes up such constitutional diseases as chlorosis and anemia, neurasthenia, hysteria, and hypochondria, in each case giving explicit directions as to what movements are necessary, their duration, and frequency. The same plan is carried out in the treatment of local diseases, as anemia, and hyperemia of the brain and cord, paralyses, chorea, sciatica, diseases of the circulatory, respiratory, urinary, and motor systems. In some instances, the clinical history of a case is quoted, showing the result of the treatment.

This treatise, which claims to be the only manual of Swedish movement and massage treatment in the English language, is well worth the

attention of those especially engaged in the massage treatment. The practitioner, or even specialist, would find little time for carrying out the details of the Ling system. The establishment of Swedish institutes in some of the larger cities would, however, enable him to give his patients the benefit of this mode of treatment.

The typographical part of the work is excellent; the binding, print, and illustrations are of the first quality, adding much to the value of such a manual. W. C. K.

SOCIETY TRANSACTIONS:

I. **Transactions of the Medical Society of the State of New York for the Year 1889.** Published by the Society. Standard 8vo, pp. 507. William J. Dornan, printer. 1889.

II. **Transactions of the New York State Medical Association for the Year 1888.** Volume V. Edited for the Association by ALFRED LUDLOW CARROLL, M. D. Small 8vo, pp. 610. Concord, N. H.: Republican Press Association. New York: J. H. Vail & Co. 1889.

III. **Transactions of the American Gynecological Society.** Volume XIII. For the Year 1888. Small 8vo; pp. 502. Philadelphia: William J. Dornan. 1888.

I. Never since the Society assumed the publication of its Transactions, in 1875, has its annual volume appeared more promptly or in better form. The paper, press-work, and binding are very much improved, and, taken altogether, it is an agreeable book to handle and to look upon. Its contents, too, exhibit much careful work of scientific value. Some of the papers are of more than ordinary excellence, and deserve thoughtful study, while all are of a nature to reflect credit upon their authors and upon the Society that puts forth the volume as well. We have so recently (see March number) discoursed upon the work of the Society at this meeting, that it is unnecessary to go into further detail here.

II. The Transactions of the New York State Medical Association is an ornamental book, and contains many papers of professional interest and scientific excellence. Some of the discussions are of especial value, and deserve to be preserved in this neat and durable form. We observe that many physicians take active interest in both these State organizations,—a gratifying sign of harmony and professional good-fellowship.

III. The Transactions of the American Gynecological Society presents its usual fine appearance, and the volume is replete with interesting material. The Transactions of the special societies for 1888 possess an added interest from the fact that it was the first year of the Congress of American Physicians and Surgeons, and so a large attendance was attracted to the meetings, and hence the work done was, generally speaking, of more than usual quality. This Society is no

exception to the rule, though it will not become a part of the Congress until 1891, when the latter convenes again. We think it would be well if these volumes of the Transactions of the special societies could be made to find their way into the hands of the profession more generally. The thirteen volumes of this Society's work that we happen to possess are among the highest prized of any equal number of books upon our shelves, and we would regard it a sad parting to separate from them.

Synopsis of Human Anatomy, being a complete compend of Anatomy, including the Anatomy of the Viscera, and numerous tables. By JAMES K. YOUNG, M. D., Instructor in Orthopedic Surgery and Assistant Demonstrator of Surgery in the University of Pennsylvania; Fellow of the College of Physicians; etc., etc. 12mo, cloth, pp. ix., 393. Philadelphia and London: F. A. Davis, publisher. 1889.

Dr. Young has compiled a very useful book. We are not inclined to approve of compends as a general rule, but it certainly serves a good purpose to have the subject of anatomy presented in a compact, reliable way, and in a book easily carried to the dissecting-room. This the author has done. The book is well printed, the illustrations well selected, and the text judiciously chosen. If a student can indulge in more than one work on anatomy,—for, of course, he must have a general treatise on the subject,—he can hardly do better than to purchase this compend. It will save the larger work, and can always be with him during the hours of dissection. The book appears as one of the Physicians' and Students' Ready Reference series published by Mr. F. A. Davis, and we believe will serve the purpose for which it was intended. F. H. P.

Wood's Medical and Surgical Monographs. Volume II., No. 3, June, 1889. Contents: General Orthopedics, including Surgical Operations. By DR. AUGUST SCHREIBER. Index for Vol. II. Pp. xii., 336.

Volume III., No. 1. July, 1889. Contents: Cancer and Cancerous Diseases. By SIR SPENCER WELLS, Bart., F. R. C. S. Cardiac Dyspnea and Cardiac Asthma. By DR. S. VON BASCH. The Influence of Menstruation and of the Pathological Condition of the Uterus on Cutaneous Diseases. By DR. L. GRELLETY. Tension as met with in Surgical Practice; Inflammation of Bone; Cranial and Intercranial Injuries. By T. BRYANT, F. R. C. S. Antisepsis, and its Relation to Bacteriology. By DR. J. NEUDORFER. Pp. ii., 254. New York: Wood & Co. Published monthly. $10 a year. Single copies, $1.

I. Whoever has attentively observed the advances made in the surgical field during the past quarter of a century, cannot fail to be impressed with the fact that nowhere has this improvement been more apparent or substantial than in orthopedics. While it is not possible for the general practitioner to equip himself to deal with all the deformities that befall man, he should yet be sufficiently familiar

with them in general to direct their management into proper channels, and to be able to supervise the intermediate details. In Dr. Schreiber's treatise will be found the latest thought on the subject. It is copiously illustrated with 388 handsome cuts, that serve to elucidate the text in an admirable manner. The index to Volume II. accompanies this number.

II. With the July number begins Volume III., and the several subjects therein contained deserve to be read carefully to be appreciated. Every one of the subjects are of sufficient importance to demand this, and no cursory review can do them justice. The standard of these monographs has thus far been maintained even beyond the promise of the publishers in their announcement. No error can be committed in the purchase of these books, singly or in groups.

The Story of Phœnicia. By GEORGE RAWLINSON, M. A. 12mo, pp. 350. New York: G. P. Putnam's Sons. 1889.

The author's name is an indication of the value of this history. It is the twenty-fourth volume of the Story of the Nations series. It contains an excellent description of Phœnicia, its people, their habits, and industries. It is profusely illustrated, and contains a map of the country, which is a great help to all readers of history. It fulfils its mission admirably, in placing the history of Phœnicia before the public in an interesting and attractively readable manner. H. B.

Physicians' Leisure Library. On the Treatment of the Morphia Disease. By DR. ALBRECHT ERLENMEYER. Translated by E. P. HURD, M. D. 12mo, paper, pp. 113. Twenty-five cents. Detroit, Mich.: George S. Davis. 1889.

This little book contains the gist of the chapter on Treatment in Erlenmeyer's treatise on the subject. All that is required to present his view has been given, as Dr. Hurd has chosen the practical portion of the chapter on treatment, pruning down whenever he could do so, without diminishing the value of the book.

The system of Erlenmeyer is that known as rapid withdrawal of the drug, as opposed to the gradual diminishing of the dose which sometimes extends over a period of months.

His first law is to get the patient into an institution where he can be controlled absolutely. If this is not done, he has no faith in any system of cure by any method while the patient is at liberty. Once in an institute, he begins diminishing the dose of the drug. Case IV., which he reports, may be given as a type: "Morphia habit for one and a half year's duration. Daily quantity, fifteen to twenty-two grains. Withdrawal in six days. Convalescence of twenty days."

He is a decided opponent of the system which substitutes, for the morphine, cocaine. This he denounces in the strong language which it deserves. This book is one which cannot fail to be appreciated by all who are interested in the subject; and what physician who administers morphine is not?

We can thoroughly recommend this volume as being a practical aid to the treatment of this obstinate habit. J. W. P.

Physiological Notes on Primary Education and the Study of Language. By MARY PUTNAM JACOBI, M. D. 12mo, pp. 120. The Knickerbocker Press of G. P. Putnam's Sons. 1889.

The system of education here outlined is a most perfect one. It overthrows the time-honored method of beginning with reading, writing, and arithmetic, in which, as the author says, there is an exquisite absurdity. The author further says: "The first intellectual faculties to be trained are perception and memory. The subjects of the child's first studies should, therefore, be selected not on account of their ultimate utility, but on account of these faculties. What sense is there, then, in beginning education with instruction in the arts of reading and writing?" Almost every one can look back and remember tears shed in the mastering of abstract propositions, which they afterwards recited, parrot-like, without understanding. This is a book that should be read by all teachers of the young, in the hope that it may lead to a better order of things.

There is only one exception to be taken to this admirable work. The child's education should *not* begin at the age of four. With very few exceptions, the physical force would soon be exhausted, leaving no endurance for the years when it is most needed. There is something pathetic in a child of five and a half being able to dictate the following to be written in a journal: "The episperm, on the under surface of Tertius, is all black, and has split, leaving a space the shape of an equilateral triangle, with the apex pointing to the convex edge of the cotyledons." The last half of the book contains many valuable suggestions in regard to the study of language. H. B.

Lectures on Bright's Disease. By ROBERT SAUNDBY, M. D., Edin. Fellow of the Royal College of Physicians, London, Emeritus Senior President of the Royal Medical Society; Fellow of the Royal Medico-Chirurgical Society, etc., etc.; with fifty illustrations. Octavo, cloth, pp. vi., 290. New York: E. B. Treat. 1889. Price $2.75.

We have recently given space to the consideration of the subject of the Diseases of the Kidneys, and therefore an extended notice of this work will not be required. It is sufficient to say that this volume

of Dr. Saundby's is a valuable contribution. He has a clear grasp of the facts that have passed before him during many years, and presents his conclusions in a concise and satisfactory manner. The whole subject of Bright's Disease receives attention; the present state of our knowledge is finely stated, and the author's own experience carefully detailed. The work will be found to repay diligent study. The illustrations are very good; a well-selected Bibliography follows each chapter, and a complete alphabetical index closes the volume. It appears as the sixteenth volume of the series of Treat's Medical Classics, and will, no doubt, be received with great favor by all students.

Sixteenth Annual Report of the State Commissioner in Lunacy for the year 1888. Transmitted to the Legislature January 15, 1889. Octavo, pp. 155. Albany: The Troy Press Company, printers. 1889. (Through Hon. Leroy Andrus.)

This is a very complete report of the question, involving the care of the insane in this State, as well as the present condition of their management. The report has been compiled under difficulties, as very little help could be had from the outgoing commissioner, and the recommendation that hereafter the Commissioner report to the Governor on or before the first day of December of each year, is timely. Since, however, the creation of the State Lunacy Commission, an annual report will, of course, be made. This very complete report will be of assistance to the new commission in organizing this work.

BOOKS AND PAMPHLETS RECEIVED.

A System of Obstetrics by American Authors. Edited by Barton Cooke Hirst, M.D. Vol. II. Illustrated with 221 engravings on wood. Philadelphia: Lea Brothers and Co. 1889.

Diseases of Women: A Manual of Non-surgical Gynecology, designed especially for the use of Students and General Practitioners. By F. H. Davenport, A. B., M. D. With numerous illustrations. Philadelphia: Lea Brothers & Co. 1889.

The Physician Himself, and Things that Concern His Reputation and Success. By D. W. Cathell, M. D., Baltimore, Md. The ninth edition, revised and enlarged. Philadelphia and London: F. A. Davis. 1889.

Bureau of Education. Contributions to American Educational History. Edited by Herbert B. Adams. No. 3. The History of Education in North Carolina, by Charles Lee Smith. No. 4. History of Higher Education in South Carolina, with a Sketch of the Free-School System, by Colyer Meriwether, A. B. No. 5. Education in Georgia, by Charles Edgeworth Jones. No. 6. History of Education in Florida by George Gary Bush, Ph. D. No. 7. Higher Education in Wisconsin, by Wm. F. Allen and David E. Spencer.

"Curorte" enthaltend: die wichtigsten Bada- und Cur-Anstalten Mittel-Europa's nebst Biographien und Portrats hervorragender Aerzte. Bei Dr. Adolf Kallay. Wein, 1889. Verlag von Wilhelm Braumuller u. Sohn, k. k. Hof- und Universitats-Buchhandlung.

Report of a Case of Stricture of the Rectum, the Probable Result of a Specific Vaginitis. By Lewis H. Adler, Jr., M. D., Philadelphia. Reprint from the *Medical and Surgical Reporter*, June 29, 1889.

A Case of Hodgkin's Disease, accompanied with a Possible Resulting Paraplegia. Reported by Lewis H. Adler, Jr., M. D., Philadelphia. Reprint from the *Medical News*, January 12, 1889.

A Year's Work in Abdominal Surgery. By Clinton Cushing, M. D., San Francisco, Cal. Reprint from *Pacific Medical Journal*, July, 1889.

Report of Amputations performed at the Hospital of the University of Pennsylvania from September 30, 1874, to December 31, 1888. By Lewis H. Adler, Jr., M. D. Reprint from the *Medical and Surgical Reporter*, May 11, 1889.

Report of a Case of Hystero-Epilepsy in a Man. By Lewis H. Adler, Jr., M.D. Reprint from the *Medical News*, March 9, 1889.

Hernia. A Comparison of the Various Methods Adopted for its Cure; Inviting Discussion of their Respective Merits. By C. H. Mastin, M. D., LL.D., (University of Pennsylvania,) of Mobile, Ala. Reprint from the Transactions American Surgical Association. 1889.

Secondary Mixed Infection in Some of the Acute Infectious Diseases of Children. A Thesis read before the Chicago Gynecological Society, January 25, 1889. By Bayard Holmes, M. D. Reprint from the *North American Practitioner*, February, March and June, 1889.

Semi-Annual Price List of Standard Pharmaceutical Preparations and Pharmacopeial Reagents. Manufactured by E. R. Squibb, Brooklyn, N. Y. Revised July 1, 1889.

Seventh Annual Announcement of the Medical Department of Niagara University, Buffalo, N. Y. Session of 1889–'90.

University Medical College of Kansas City. Formerly Medical Department of the University of Kansas City. Ninth Annual Announcement and Catalogue of Session, 1888–'89. Kansas City, Mo.

Forty-fourth Annual Announcement of the Medical Department of the University of Buffalo for the Session of 1889–'90, with Catalogues of previous Session. Buffalo.

Annual Announcement and Catalogue of the Baltimore Medical College, Baltimore, Md. Session 1889–'90.

Annual Announcement and Catalogue of the College of Physicians and Surgeons, Baltimore, Md., 1889–'90.

Annual Catalogue and Announcement of the Western Pennsylvania Medical College, Pittsburgh. Sessions of 1889–'90.

Twenty-ninth Annual Announcement of the Bellevue Hospital Medical College, 1889–'90, with the list of graduates for 1889.

Monthly Bulletin of the New York State Board of Health, May, 1889.

Health in Michigan, June, 1889.

Report of Deaths and Contagious Diseases for the month of June, 1889. Newport, R. I.

Weekly Abstract of Sanitary Reports. Vol. IV. Nos. 27, 28, 29, 30.

Literary and Other Notes.

THE PROFESSIONAL CANVASSER is an advertising medium as well as a supplement to The Professional Reference Lists, which is an elaborate price list, presenting the manufactures of leading American and European firms.

The Professional Canvasser is published at irregular dates. Each issue combines subjects of interest to the medical profession, and the several issues are as diverse as the interest represented is complex.

The copy last received is a twenty-page pamphlet, combining price lists and specimen plates of engraving, stamping, blocking, embossing, illuminating, etc.

Arrangements have been completed to supply copies to one hundred thousand applicants, but each copy costs over ten cents, and applicants are solicited to remit that amount to cover costs of postage, etc.

Address all communications to FRED. D. VAN HOREN, 23 Clinton place, New York.

MR. GEORGE JOHN ROMANES, the distinguished author of Mental Evolution in Man: Origin of Human Faculty, has contributed to *The Open Court* of July 11th, an article entitled "The Psychic Life of Microöganisms." The public will recall M. Binet's able series of essays in Volume II. of *The Open Court*, in which the soul-life of these tiny and interesting beings was so carefully discussed. The essays were afterwards published in book form by The Open Court Publishing Co. In a preface written especially for the American edition, M. Binet took issue with Mr. Romanes relative to the stage in animal development at which psychological powers first appear. The criticism has attracted much attention. The eminent English scientist, in turn, now replies to the strictures of the French *savant*. The controversy will be of interest to all. To those who have read M. Binet's monograph, the reply of Mr. Romanes will be found an appropriate supplement.

THE Private Hospital for Rectal Diseases, recently opened by Dr. Edward Clark, in this city, affords a most excellent opportunity for those afflicted in this way to receive that special treatment and skilful care so absolutely necessary to perfect recovery.

GOOD.—Judge Andrews, of New York, has lately decided that a stable, however well it may be built, is a nuisance in the vicinity of handsome residences, and that an action can be brought to have it removed.—*Sanitary Era*, July 15th.

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Original Communications.

THE CORN-STALK DISEASE IN CATTLE.

By FRANK S. BILLINGS,
Director of the Patho-Biological Laboratory of the University of Nebraska.

(*Concluded.*)

MORPHO-BIOLOGICAL CORRESPONDENCE BETWEEN TWO OR MORE MICRO-ETIOLOGICAL ORGANISMS NOT SUFFICIENT GROUNDS FOR PRONOUNCING THE DISEASES WITH WHICH THEY ARE CONNECTED IDENTICAL.

The details of this discussion will be found in my report on the swine-plague. It is necessary, however, to touch upon the essential points here also. As was there shown, Hueppe asserts that the European diseases previously mentioned as being caused by a member of this group of belted, ovoid germs, viz., the "Hühne Cholera, Kaninchen Septikæmie, und Wild Seuche" are all one and the same disease, because their micro-etiological organisms have the same form, the same size, the same belted appearance, and because they all grow alike in bouillon, upon agar-agar, and in beef-infusion gelatine.

No greater or more misleading and illogical pathological misconception could possibly be made, than this statement of Hueppe with regard to the diseases named.

It may be axiomatically asserted that the most complete morphological resemblance, and exact morpho-biological resemblances, in or upon any artificial media, are not sufficient grounds for any such generalization in classification of diseases as that attempted by Hueppe.

To all beginners in the work of patho-bacteriology, and to all older hands as well, I most dogmatically assert that there is but one factor in the biology of micro-etiological organisms which can decide whether two apparently alike germs are one and the same object when derived from two distinct diseases of animal life. That factor is a physio-chemico-biological one! The character of the ptomaine pro-

duced, or the lesions resulting in inoculated animals, decides it. Both germs must produce the same disease in both species of animals, the same chemical and pathological phenomena which occur in the same diseases and in the same species of animals under natural conditions, when healthy animals of the given species are inoculated with artificial cultivations of the germs in question.

Our experiences here completely upset Hueppe's hypothesis!

The American swine, the southern cattle-plague, the yellow-fever, and the corn-stalk disease should, according to Hueppe, be identical diseases with those mentioned as such by him in Germany; because, according to his conditions, the germs are identical in appearance. Hueppe's entire argument is completely nullified by the following facts:

First—There is no southern cattle-plague known in Europe.

Second—Cattle and swine run together in this country, and one or the other may have respectively swine or cattle-plague, and yet the other species will never become ill, even from the closest contact with members of the other species ill with its peculiar plague; also in the corn-stalk disease.

Third—The same is true of hen-cholera and swine-plague in this country. Hens can feed on hogs dead from swine-plague, from the ground polluted with their discharges, even picking out grain from the same, and still remain well, and the same is true of the hogs with regard to hen-cholera and the southern cattle-plague.

Hence, no matter how germs may resemble each other when artificially examined, they fail in the one great factor necessary to make the diseases produced by them identical.

Fourth—Human beings do not have the yellow-fever at the same time cattle have the southern cattle-plague in the same locality. They do not have the same physiological chemical attribute with regard to a given something produced, which invariably decides the pathogenic results produced by a given germ. Notwithstanding these facts, these diseases have a very close relation to one another.

They are all extra-organismal, local, land septicemiæ. Each one, however, has something peculiar about it that prevents it from being identical with the others, aside from any action of the germ itself. It is this: each species of animals in which they produce a specific disease has some unknown constitutional idiosyncrasy which renders its members susceptible to the action of a given germ, and each of these germs has some peculiar unknown biological idiosyncrasy by which alone it infects naturally but a given species of animal life. These two factors together can alone decide the identical question. What we can do artificially, by the inoculation of other animals than the

disease occurs in naturally, has no necessary relation to the question whatever.

To return to our subject.

There are, however, other phases in the development of these germs of a bio-morphological character. For instance, as already said, we may see two or three individuals, of the mature type, united together (Fig. 2), or we may find two apparently mature organisms enclosed in a common capsule, the two medial dark points or poles being in such close apposition that no line of demarkation or indentation of the capsule can be seen at this point, the whole outer surface being smooth (Fig. 7); on the other hand, the two lateral ends or free poles are separated by the normal quantity of white non-colorable substance. Again, these diplo-bacteria may assume a curved or sausage shape, which we may sometimes see intimated in the single organisms (mature—Fig. 8). At other times, though not very frequently, the germ may appear in a nearly normal form, but one pole- (coccoid) end will be semi-segmented from its appositional end of the white substance by a constriction of the same at its line of attachment with the pole-end (Fig. 9). This end will then be smaller than the opposite pole, thus giving a sort of pear-shape to the entire organism; the small pole-end is soon dropped, however, and becomes momentarily a free coccoid, and goes through the cycle of morpho-development already described; the same occurs with the other pole-end. This concludes my observations of the micro-morphological phases presented by these two etiological organisms in the course of their development. There may be some minor phenomena that have escaped my attention, but I am very sure that I have described all the essential points.

ESSENTIAL CHARACTERISTICS OF THE DEVELOPMENT OF THE CORN-STALK DISEASE ORGANISM AND THE POINTS OF DIFFERENTIATION BETWEEN IT AND THOSE OF SWINE-PLAGUE AND SOUTHERN CATTLE-PLAGUE IN AND UPON DIFFERENT CULTIVATING MEDIA.

The germ grows well and most characteristically at ordinary room temperature.

Potatoes.—Upon the cut surface of sterilized and steamed potatoes the germ of the corn-stalk disease grows as greyish-white somewhat elevated colonies, while that of swine-plague develops in a sort of yellowish, dirty, olive color, somewhat resembling muddy coffee, and that of the southern cattle-plague in primarily straw-yellow color, which eventually assumes a slightly reddish shade. Very soft, moist potatoes will affect the growth and its color.

White of Eggs.—The most practical way of sterilizing this material and getting it in a convenient form, is to steam the eggs until cooked hard, and then remove the requisite portion of the shell with sterilized forceps, after which they are placed in a moist chamber, prepared in the same manner as for potatoes or plate cultures.

Upon this medium the corn-stalk germ grows as a clear yellow colony, with slightly raised edges, and is to be easily distinguished from that of swine-plague, which develops as a somewhat opal, projecting, white, semi-fluid mass, the center being the much more prominent, and that of the southern cattle-plague, which presents a buff-colored colony.

Agar-agar (plain, not glycerine).—Upon this medium, when the surface is dry and not accidentally moistened by the fluid in the bottom of the tube, the corn-stalk germ develops in a really characteristic manner, in contradistinction to the other two. In the color of the development there is nothing essentially different to be seen, but, in comparison with the swine-plague organism, the edges of the cultures are more distinctly scalloped, the separating lines extending deeper into the body of the culture; but a marked point of difference is, that, commencing from the line of inoculation, the corn-stalk germs form lines or rays which are finally limited by a diffuse semi-transparent border. Each of these lines is made up of individual colonies; again, the culture is much more dry and less viscid than that of swine-plague (which is of a diffuse greyish color), and adheres much more closely to the underlying agar; in fact, when old, it will break up in fragments on attempts at removal with the wire. As said, in order to get these effects, the agar must be just right, and have a dry surface. On agar, there are no essential points of difference between the swine-plague and southern cattle-plague organisms, except rapidity of development and a slight variance in the irregularity of the edges of the cultures.

Beef Infusion Gelatine Punctures.—The growth in gelatine itself, of these three organisms, offers nothing of a differential, characteristic nature, but their development upon the surface varies considerably, the germ of the corn-stalk disease developing and spreading of the surface the most rapidly, and with more leaf-like extensions. It is also more dry and lusterless than either of the others. That of the southern cattle-plague is next in rapidity of development, while that of the swine-plague develops the more slowly, and has the more prominent edges. Both this and that of the southern cattle-plague form a more or less viscid colony, while the corn-germ adheres to the gelatine, and is inclined to break up on removal with the wire, especially if the cultures are a little old.

Oblique Surface of Beef Infusion, Gelatine.—As neither of these organisms cause this medium to become fluid, it was quite interesting to see how they would grow on gelatine prepared in this way. The germ of swine-plague here develops, or shows, more of a yellowish-white shade than the others, and has a greater degree of opacity, the edges of the growth being very delicately irregular. The corn-germ extends the most rapidly and the growth is more pellucid, pearly-white, than the others, the edges being much more deeply scolloped, and towards the bottom of the growth a delicate, smooth, pearly-white edge embraces the scollops; the southern cattle-plague germ, the most slowly of all, being of a milky-white color, but less intense than that of swine-plague. The edges of the growth are more delicately irregular than in either of the others.

INOCULATION EXPERIMENTS WITH PURE CULTURES OF THE CORN-STALK ORGANISM.

The next step was to prove the malignity of the pure cultures thus obtained. To this end there were inoculated, February 11, 1889, one full-grown buck rabbit, with a pure bouillon culture; in sub-cutis of right ear, two drops; in that of the inside of right flank, three divisions of a 1 c. cm. syringe. The ear was inoculated, especially to see if there would any extreme degree of tumefaction follow.

2. One male, full-grown Guinea-pig; three divisions of a syringe inside of right flank.

3. Mouse; one drop in same locality.

Morning of 12th, rabbit ill; will not move unless made to; not eating; no local tumefaction. Mouse very ill, coiled up in corner of cage, and only moved on disturbance. guinea-pig same, but not so much depressed; nibbling a little food.

12th, 3 P. M.—Mouse just died. No edema at point of inoculation, but local vessels engorged; mesenteric vessels engorged, and serosa of abdominal cavity swollen and glistening; muscles looked as if cooked; spleen, liver, and kidneys swollen and very full of blood; lungs congested.

12th, 3.25 P. M.—Rabbit dead. Skin and subcutaneous tissue at locus inoculationis of flank much engorged, but no edema present; of a diffuse red color, with marked injection of larger vessels; no effect in ear other than mentioned; no effusion in cavities of the body; blood extremely thin and of a purple-red color; lymph-glands much swollen and very juicy. *Liver* swollen; serosa normal, but the parenchyma reflecting through it was of a yellowish grey-red color; peripheries of acini yellowish grey; center red; cut surface very friable,

opaque, and anemic, yellowish grey in color. *Kidneys* swollen; capsule non-adherent, cortex anemic, opaque grey-red in color; medullary substance of a diffuse dark-red color. *Spleen* swollen; pulp very juicy and soft; vessels of mesenterium engorged, those on curvatures of stomach the same; mucosa of stomach swollen, covered with thick viscid coating, diffuse bright-red in color; contents of small intestine fluid, mucosa much swollen, yellowish red in color, and covered with a viscid coating. Contents of large intestine pultaceous; mucosa not swollen. Lungs engorged. Pure culture of same germ as found in material from the Fremont animal derived from each organ, and accurately tested by comparison with original culture as well as microscopically. Same organism in small intestines and isolated from the others there by plate cultures.

13th, 2 P. M.—Guinea-pig dead. Lesions same as in rabbit. Cultures conformable.

These experiments demonstrated three facts of great differential diagnostic value. Aside from those demonstrated by the cultivation experiments, these inoculations showed that the organism in question could not be that of swine-plague, on account of its acute fatality. It could not be that of the southern cattle-plague, because of the immunity of rabbits to that germ in such small doses. It could not be the germ of the German "Wild-seuche," because of the total absence of the enormous edema which invariably follows such inoculations in that disease.

It must, then, be a new disease!

EFFECTS OF INOCULATIONS WITH THE SAME MATERIAL IN A STEER AND HOG.

These inoculations were made on the 9th, two days previous to those in the small animals mentioned, six c. cm's of a pure bouillon culture being injected under the cutis in each case. The hog was not affected at all, and with that we will leave it.

Steer-calf, five months old.

10th—Temperature, 10 A. M., 39.50° C.

11th—Temperature, 10 A. M., 39.50° C.

12th—Temperature, 10 A. M., 39.70° C.

Locus inoculationis slighly swollen and hot; animal lying down, loth to move; respiration 60 per minute, pulse much accelerated; right lung solidified for the lower half; augmented vesicular respiration, with some thickening of the sound in superior half of this and whole of left lung; drinking much, but eating little.

13th, 9 A. M.—Temperature 41° C, respiration 60, pulse as before; made to rise with difficulty; right lung still more solidified, some pleuritis in lower portion; eyes wild, conjunctiva injected, yellowish material escaping from nostrils; severely constipated, feces dark and hard, urine albuminous.

13th, 5 P. M.—Temperature 40.50° C.; manure becoming pultaceous; otherwise same.

14th, 9 A. M.—Temperature 40.70° C.; condition about same; animal emaciating rapidly; discharge quite fluid and of a yellowish color.

15th, 9 A. M.—Temperature 40.70° C.; manure a little more solid, respiration somewhat easier; animal eating a little; lung clearing up somewhat.

16th, morning—Temperature 39.90° C. Evening, 39° C.; animal improving.

17th, morning—Temperature 36.2° C. Evening, 36.2° C.

This looked like death. The animal was shivering, and terribly emaciated, and I felt sure of an autopsy in the morning, but on the

18th, morning—Temperature 37° C. Evening. 37° C.

19th, morning—Temperature 37° C. Evening, 37.1° C.

20th, morning—Temperature 37.1° C.

The animal eventually recovered, though it became excessively emaciated. On the 15th, I washed the inferior surface of its tail with cor. sub. 1.1000, and with a sterilized knife opened the local vein, allowing the blood to flow directly into a sterilized homeopathic vial. From the same I again obtained pure cultures of the germ, which were proven by cultivation comparisons with the various others, all of which were kept up on the different media mentioned until the investigations were terminated to my satisfaction.

A FEEDING EXPERIMENT WITH PURE CULTURES.

Fed a full-grown female rabbit with pure bouillon cultures from the Fremont cow, by pouring 25 c. cm's. between the leaves of a quarter of the head of a cabbage two days in succession, beginning with February 14th. 15th and 16th, no change; eats with avidity. 17th, somewhat quiet, but still eats its rations pretty well. 17th, back arched, hair bristling, sitting quiet in corner of cage; respiration somewhat increased, eating but little. 18th, not eating at all; remains in one place, back arched, respiration very rapid. 19th, 9.30 A. M., dead in cage on arrival at laboratory. Somewhat emaciated, musculature very pale, peritoneum swollen and diffuse pink-red with occasional punctiform red spots scattered through

it; serosa of the stomach and small intestine swollen and clouded; vessels much engorged. Liver swollen, of a mottled greyish yellow and red color. Gall-bladder distended; duct open into intestine; outside surface anemic, opaque, and yellowish grey-red in color. Acini swollen; periphery yellowish grey in color and glistening in character, center reddish. Spleen excessively swollen, pulp soft and juicy; kidney swollen; cortex opaque and anemic, yellowish grey in color, diffuse red. Thoracic cavity contained about a tablespoon of yellowish red fluid; right lung attached to ribs in all directions, and solid throughout. Pericardial sac totally obliterated; portions of left lung solid, and red centers throughout solidified parts. Urine albuminous. Cultures from heart's blood, spleen, liver, lungs, and kidneys contained the same germ as in previous cases, and developed in the same manner.

A FEEDING EXPERIMENT WITH CORN-FODDER FROM FREMONT, NEB.

Immediately upon finding the same microörganisms in the blood and organs of the cow killed at Fremont, that I had found in the same kind of material from Ames and Cortland the previous year, and feeling there might be a hidden truth behind the "dry corn-stalks" theory, I wrote to Mr. Delaney, of Fremont, to send me some of his corn-stalks, and to strip off the leaves, so as to save bulk. He very fortunately misunderstood me, and sent a small package of the stripped leaves, totally insufficient for any feeding experiment in cattle. On account of extreme demands on my time, I let the material remain in the package, and gave no thought to it until February 26, 1889, when Dr. E. O. Shakespeare, of Philadelphia, being here, and wanting a piece of paper to wrap up something in, I undid the corn-leaves and gave him the paper. As a mere matter of curiosity, I gave the leaves to a rabbit to eat, cutting off all other food, but giving it an abundance of fresh water twice daily. So little did I think that the leaves would lead to any positive effects in the rabbit, that I gave no attention to the animal until my man told me it was dead, on the morning of March 4th. In fact, it had just died as we got to the laboratory. It had been eating green food for the past two days, but had not touched that given it on the third. My interest in the matter was very great, and no time was lost in making examinations and cultures. In the blood, liver, spleen, kidneys, and mesenteric lymph-glands, the same germ as that found in the cattle was present, so far as one could judge from a microscopical examination. Cultivation experiments gave all the points of differentiation which experience has shown can be relied upon. The cultures were all strictly pure, as shown by cultivations on potatoes, eggs, and in gelatine.

The lesions in the rabbit were briefly these: Swelling of the peritoneum, with straw-colored effusion in cavity. Liver excessively swollen, very friable, and almost a phosphorous liver in portions, in its degree of fatty degeneration. Spleen same as to swelling, pulp almost semi-fluid. Kidneys, cortex almost pure yellowish grey, opaque, and anemic; friable also. Stomach two-thirds full, mucosa intensely swollen, covered with a thick, viscid coating, beneath which the tissues were a diffuse purple-red. Contents of small intestine fluid, mucosa very thick and swollen, covered with a glary viscid coating, and anemic, as in the feeding experiments with the swine-plague germ. Large intestine, contents pultaceous, mucosa but little swollen though much injected, mesenterial lymph-gland resembled the strawberry-like glands seen in hog-cholera; excessively swollen; vessels of membrane engorged. Thoracic cavity, heart-muscles opaque, very anemic, and friable; bronchial lymph-glands diffusely red and juicy; left lung hyperemic; right, normal.

Thus, it will be seen, I have followed this germ, first finding it in the cattle, and then tracing it from them to the corn, demonstrated its malignancy in that material; and beyond that, the accidental sending me of the leaves, instead of the stalks, by Mr. Delaney, and the positive result in the rabbit fed with those leaves, closely conforms to the practical fact that cattle, when turned into such stalk-fields, naturally take the leaves and tender top-shoots, leaving the hard dry stalks more or less untouched, and hence it is from them that they become infected. I believe this to be the first actual demonstration of a germ of a malignant nature infecting our grasses or grains during their development, and having disease-producing properties for certain forms of animal life when fed upon them. The question still remains open, so far as this germ is concerned: Does it also penetrate the ear? That it is in the stalks, I have myself demonstrated by microscopical examinations and cultures, but with this singular result: *It is not disease-producing when inoculated in either rabbits or mice from this source, while from the leaves it is, as we have seen from the feeding experiments in the black rabbit.*

This fact again opens up a still more interesting question, viz.: *Does the nature of the soil (nutrition), or the chemical properties in which these extra-organismal infectious elements primarily live, or into which they get, cause their specific infectiousness in relation to animal life?*

We do know that the chlorophyl, and perhaps some other elements in this case, of the leaves of the corn has a different chemical composition from the pith of the stalk or even its woody covering, unless it be its extremely superficial layer; hence, we must face the question:

As this organism is not disease-producing when derived from the stalks, does the germ cause a chemical decomposition in the elements, juices, present in the leaves, or does chlorophyl supply a material which causes such changes in the physiological attributes of the germs as make them disease-producing for a certain length of time? It is well known that in artificial media they either lose their infectious property in time, or can be made to do it at our pleasure. In fact, we are able to graduate that property at will. As to the swine-plague germ, I have experimentally demonstrated that a mitigated culture of these germs, which will not seriously affect a bunch of pigs when inoculated with 1 c. cm. under the cutis, though sufficient to protect them from the most severe and repeated exposures, still gets into the contents of the intestines of the inoculated animals, and when passed off in their manure, and remains there for a time under conformable conditions of temperature, becomes excessively virulent towards healthy hogs if put where such manure is, their food being scattered among it, so that they are obliged to consume more or less of such infected manure as they seek their food.

Again, we have to discover whether this corn-germ also infects grasses and other fodders, such as millet, as is rather indefinitely indicated in the letter from Dr. Brayton regarding the outbreak at Cortland, Neb., to which reference has been made.

These are all questions of immense hygienic importance to our stock-raisers, and perhaps to man as well. For, should it be demonstrated that the ear of corn is dangerous also, we have to face the question: Is it in the grain also, and is a meal from such grain dangerous to humanity as food? For, in these things, we cannot always depend on cooking, though probably we can in this case, as this corn-organism is not spore-bearing.

The pathological investigator cannot settle this corn-disease question altogether. Having traced it directly to the corn, and demonstrated the fatality of "dry murrain," impacted third stomach, corn-smut, insufficient water-and-salt, and what-not absurd theories as to the origin of this disease in cattle, it now remains for the botanist, or perhaps more truly, botanical mycologist—the simple pure bacteriologist—to trace the organism in corn, and tell us or, better, the farmers, how it affects corn, and how they can distinguish such corn—for the disease has its language in corn—so that the feeder will be enabled, in the near future, to avoid using such fodder in feeding his cattle and horses. One thing is very certain; this corn-disease is not only exceedingly local in its extension, being not only limited to certain fields, but even in certain portions of such fields, and, most probably,

to certain stalks in a hill, or, at least, to individual groups of stalks.

Some valuable and interesting testimony upon this subject is given in the following letters from my esteemed friend, Prof. Burrill. From them it will be seen that Prof. Burrill should be accredited with the first real discovery of this interesting and, unfortunately, fatal organism to our live-stock. But, as Priscilla said to Alden, "Prithee speak for thyself, John":

UNITED STATES BOARD OF INQUIRY
CONCERNING EPIZOOTIC DISEASES OF SWINE.

CHAMPAIGN, Ill., February 14, 1889.

My Dear Doctor—The disease you describe in cattle is a common one in this vicinity in the Fall and early Winter, when the animals are turned into the corn-stalk fields, and has occurred, I think, under other conditions. The veterinarians have pronounced it due to an impaction of the third stomach, just as your men have. I have not myself seen a *post mortem*. The thing is of much interest, practically and scientifically, and I will look out for it.

My best regards to you, and believe me, very truly yours,

T. J. BURRILL.

CHAMPAIGN, Ill., March 11, 1889.

My Dear Doctor—I find, on comparison with my old slides, that the microbe from your cultures differs mainly in its smaller size. I send you a slide taken from the diseased corn-stalk (maize). This was two years ago. I did not deem the matter sufficiently worked up to publish, but did publish the account of the organism on broom-corn and sorghum, a different thing from this on maize. This corn-stalk trouble is, as I found it, very local, occurring in a given area of a field, and not elsewhere. In several instances I found it only upon low spots, and in two instances on ground that had been pond-holes until the year before, when they were tile-drained. In another case, a whole field of ten acres, on rather sandy soil, and in clover the year before, was affected. Last year, a man sent me some green stalks which he said came from a forty-acre lot, nearly all of which failed, though soil and season seemed favorable. The stalks showed plainly enough the special trouble of which I now write. The most marked effect is to be noted in the leaf-sheaths, and if you can get a culture at all from the corn-stalks, I think you can best do it by stripping off some of these sheaths and taking material from the inner surface of the tissue in corroded spots. Your cultures all seem pure and, as I have now some young corn growing, I will try the effects of the same upon it. Your germ is motile in liquids, and in this agrees with my corn microbe. Neither liquifies gelatine. But I did not sufficiently study the thing at the time to be able to compare much further.

Yours, BURRILL.

Upon examining the slide sent to me by Prof. Burrill, I find the difference in size mainly due to the fact that he used a blue tincture to color his germs, which, with this organism, gives a diffuse washy outline, thus making it look larger than when colored with fuchsin, when its outlines are very sharply marked. However, I have no doubts but that my testimony and that of Prof. Burrill will eventually completely

coalesce ; though being an infinitely more skilful bacteriologist than I pretend to be, being but an embryo pathologist, I do not doubt that he may not only find something to correct, or differ from, in my bacteriological work, but add much interest and value to it, though not militating at all against its general correctness. My interest in bacteriology does not extend an iota beyond the relation of specific germs to the diseases caused by them, and such points as are directly essential to the differential diagnosis of one germ from another, but only as they bear upon disease. A bacteriologist I am not, and have no interest whatever in adventitious germs, or bacteriology *per se.*

The following letter from Prof. Burrill is still more interesting and valuable :

CHAMPAIGN, Ill., May 1, 1889.

DR. F. S. BILLINGS, Lincoln, Neb. :

Dear Sir—According to your request, I herewith send you some account of a disease affecting growing corn (maize) in the field. It must be premised, however, that the malady, as affecting this staple crop, has not been fully worked out, because, for some unknown reason, the attempts to communicate the disease to healthy plants by the application of culture materials containing the living organism derived from diseased plants have not been successful. I am thoroughly assured, however, that these failures are from some fault in the methods tried, rather than in the want of having the true disease " germ," for a specific organism is too uniformly present in the affected tissue to permit us to consider it accidentally connected therewith. Moreover, the progress of the disease from cell to cell corresponds exactly with the spread of the minute organism in these tissues. It is never found far from cells which plainly show the disease characteristics, though I have succeeded in making cultures from parts appearing healthy upon the very border of the affected portions. But this only goes to show that the healthy cells are invaded before they present the characteristics of the diseased cells; that is, the organism causes the disease, and not the disease the organism. There was a time, perhaps, when this latter alternative might have been seriously considered, but if so, surely the time has gone by. While no one will rest content with the simple presence of a microbe even constantly in affected tissue, as full and conclusive proof that such microbe is the actual active agent in the disease, still it must be admitted that this is exceedingly strong evidence of such active agency. In the present instance, I have little hesitation in saying, without successful inoculations, that the organism which has been so often found in the diseased parts of the corn-plant, and which has repeatedly been obtained in a state of purity by cultivation methods, is the direct cause of the mischief observed. I am the more confident of this from the fact that but few inoculation experiments under natural conditions have been tried. Of course, continued failure of these last would shake the confidence now felt, but up to the time of this writing there is no cause for such skepticism. It should be said that, although some work was done upon the disease during the two seasons of 1887 and 1888, other duties were permitted to crowd out this special investigation, except as stated below. Further, it must be said that, so far as I now know, the evidence that the organism found by me in diseased corn is identical with that sent me by yourself in cultures from rabbits dead from eating suspected corn-stalks, rests entirely upon their microscopical appearances. I had only mounted slides of the former for comparison, the cultures having been lost. Under the microscope they

do seem to be identical. Both are actively motile, as my notes of the former indicate for that direct from the corn, and as is readily seen in the preparations of the living "germs" from the rabbits. Neither, it appears, produces spores—at least, endspores. They behave the same in staining characteristics, so far as tried by me. Now for the notes you request.

The disease in the growing corn commences at any time during the warm season. According to my observations, it is most likely to become noticeably apparent after mid-summer, or after the corn "shoots," though this is by no means always the case. Very often it occurs only upon certain pretty clearly marked areas, or patches, in the field. I think this must be very generally the case, for only two exceptions have fallen under my observation. One of these exceptions was a field of about forty acres, the other of less size; both had fertile soil, and were well cared for. Neither paid the expenses of cultivation. As generally found, the affected patches are easily recognized. The corn fails to grow as in the healthy areas. Its stunted size at once arrests the attention. Diseased stalks may, indeed, be found as large as the largest, but it is probable that these became later affected. In one instance, an area of about an acre, planted with the rest, did finely until the young corn was about six to eight inches high, after which it died so completely that the farmer replanted the patch. This latter planting did well, so far as is known.

Along with dwarfish appearance, designated as common, the lower leaves prematurely die, passing through the stages of becoming yellowish green, then yellow, then withering away. Upon close examination, it will usually be seen that there are certain spots, more especially upon the basal part of the leaf, which is wrapped closely around the stalk, having a different discoloration. These are brown, watery-looking at first, then dark, and finally dead. Occasionally there are livid red spots or patches in the same situation, but I am not sure that these mean the same thing. These specially affected spots vary in size from mere points to those of several inches across, often larger in the direction of the veins of the leaf or leaf-sheath. It is in such diseased parts that the microscopic organism believed to cause the trouble can always be easily found, and from which cultures are readily made in beef-broth, the juice of the corn-stalks, etc.

The remaining characteristic of the disease is really the one most conspicuous to those who search carefully. When the corn suffers worst from the malady in question, the roots are badly affected. Beginning with the oldest and lowest, they die and decay in the ground. At length the stalk is held upright only by the later-developed "brace" roots, and even these may slowly corrode away. Under such circumstances, the affected stalks are very easily pushed over or pulled up from the little hold they have in the ground. If the plant is carefully dug, and the affected roots examined, even with a magnifier, no evidence can be found of the work of worms, or of insects of any kind. The roots simply die, though no wounds are to be found. The external layer rots most easily and quickly, and the woody inner part may then be pulled out like a string.

Of course, when the roots are thus affected, the whole plant suffers, ceases to grow, fails to mature its ear. Anyone and everyone, who observes it at all, knows that something is the matter. If one now looks closely at the brown spots on the leaf-sheaths or roots during the first stage of the disease, he will often find little collections of gelatinous-like exudation. Crush a minute bit of this under a microscopical cover-glass, and examine with a high power of the compound microscope, and the living organism to which we ascribe the disease can be seen in innumerable numbers.

So far as observed, corn on rich land is more likely to suffer, not unfrequently that in low places recently broken up from the sod of wild grasses seems to be the worst affected. Sometimes, instead of distinct areas in a field being alone injured, scattered stalks throughout the plantation are diseased, but this seems much less common.

The corn disease, as now described, is very similar to that affecting broom-corn and sorghum, but is, nevertheless, due to a distinct organism, having at least some differences in mode of development and action under different circumstances. The broom-corn disease was deemed sufficiently understood for publication in 1887. The topic was presented by me to the meeting at Cleveland, Ohio, of the Society for the Promotion of Agricultural Science, and the paper was published in the proceedings for that year. It was also published in the Transactions of the American Society of Microscopists for the same year.

I am, very truly yours, T. J. BURRILL.

NATURE OF THE CORN-FODDER DISEASE.

It is not necessary to go into a very detailed discussion of this point, as it has been sufficiently treated in the preceding article upon the southern cattle-plague, Part III., of my report, and even more fully in my report upon the swine-plague of the United States.[1]

Like both of those pests which so seriously interfere with the prosperity of the live-stock interests of the United States, this "corn-fodder" disease has nothing of a contagious character about it. It does not owe its primary origin to the presence of a diseased animal in the first place, or of any material from such a diseased animal among healthy stock. It is not an endogenous, generating from within, disease; on the contrary, a better example of an exogenous, owing its genesis or origin to external circumstances, disease, could not possibly be found. It most aptly illustrates my endeavors to impress upon the medical world the absurd folly of the continued use of the words contagious and infectious in any endeavor to express class in disease. The word "contagious" simply expresses to us the fact that the infection of a healthy individual, in a given disease, either took or can take place by means of contact either with an individual diseased with such a specific disease, or with some material directly from such an individual. Correctly speaking, then, the word contagious only means that the primary origin of the inficiens—infecting material—was within the body of an already diseased animal. Any other definition of this word is absurd, but the term which I have selected to express this class of diseases, while equally as technical as that of Pettenkofer—"Endogenous"—is more self-evident to the ordinary class of readers, viz., "*intra-organismal*," that is, originating within or from a diseased animal organism. On the contrary, I have called the opposite class "*extra-organismal*" diseases, simply because their

1. See review, p. 224, Vol. XXVIII., this JOURNAL.—ED.

primary origin must invariably be sought in external surroundings or conditions.

In the disease in question, we have already demonstrated that its primary cause is to be sought in the corn-fodder, and perhaps the grass which certain susceptible animals eat.

Again, this disease bears a very close resemblance to both the southern cattle-plague and the swine-plague, in that it is an absolutely local disease. Mr. McKelvie's letter demonstrates that fact, in optima forma, for he tells us that it was the corn-fodder in a certain field which was dangerous to his cattle, and all practical experience in every part of this country serves only to confirm that statement without even a single contradiction. Professor Burrill tells us the same thing with regard to the disease in the corn itself, and I feel very sure that more exact study will eventually demonstrate that, in many cases, this localization, with reference to the disease in corn, will be found so centralized that even a single stalk in a single hill or a group of stalks, will alone be found diseased, while in another there will be several, and in still other places whole groups of stalks, or even portions of a field in the major part of it, will be complicated, as witnessed by the "forty-acre" field quoted by Prof. Burrill.

THE CORN-FODDER DISEASE A SEPTICEMIA.

Were I to be asked what disease of animal life this corn-fodder disease most closely resembles, I should say it is the exact counterpart of the genuine swine-plague, and, in fact, most respectfully refer the reader to page 320 of that report, upon "the intra-vital phenomena" in that disease. In the corn-fodder disease in cattle, every organic lesion and every variety of lesion seen in the swine-plague will be seen with the exception of the ulcerative or neoplastic lesions and perhaps diptheritic, seen in the intestines, which are primarily due to idiosyncrasies of structure in the hog and only secondarily to the action of the bacteria causing that disease. Here, too, we have the same excessive parenchymatous changes in the great glandular organs of the body common to all acute diseases of this character. Here, too, we have pneumonia in all the various types as in swine-plague, and again one form bearing the very closest resemblance to the same in swine-plague worked by the engorgement of the inter-lobular vessels and coagulation of the blood within them, and which is equally well applicable to this corn-fodder disease. In both species of animals, the pregnancy of this lesion is due to the peculiar loose and open character of the interlobular tissue and the large vessels circulating in this tissue, which is common to both species of animals. Again, in both diseases

we find an acute broncho-pneumonia, not due to the entrance of the specific germs via the respiratory tract, but to the extreme degree of interference which the circulation suffers and the consequent effusion of serum into the air-tubes, especially the smaller, obstructing them and leading to atelectasis and pneumonia. I neglected to call attention to this variety of consolidation in my report on swine-plague, but it is really a very common form and to be easily distinguished from that variety caused by the entrance of the germs via the respiratory tract, *which is more acute, more multiple, more rapidly caseous and especially not hemorrhagic in any of its parts or in the surrounding tissue.* This is a point which I would especially call to the attention of some investigators in this country who fondly imagine themselves authorities upon questions of pathology, especially that of swine-plague.

In the corn-stalk disease, my experiences are, unfortunately, limited. I have found the form of broncho-pneumonia mentioned, and not the specific bronchial infective type seen in swine-plague, and which, considering the manner of infection, is of necessity by way of the intestinal canal, it is very doubtful if the bronchial infective variety ever occurs in connection with this germ, but I have seen another form of broncho-pneumonia in this disease due to an entirely adventitious bacillus capable of developing in the catarrhalic infected bronchioles, but which had no more connection with the disease in question than if the animal had been afflicted with verminous bronchitis, and exposed to dust of some kind in which such a germ was suspended. The occurrences are more common in the septicemic diseases of our domestic animals than any observers of this country or Europe seem to be aware of. In sections of such lungs, sometimes one variety and sometimes several varieties of adventitious germs may be found mixed up with the genuine organism, which latter may have had nothing whatever to do with the lesions in question. Ultra-bacteriological investigators go on a wild-goose chase after such adventitious germs, while men of pathological common sense cast away such chaff and pay their attention to the disease as it is, valuing complications as they should be appreciated. In this disease, as in swine-plague, we may frequently find an entire absence of the consolidation in the lungs, if I can judge by the very meager notes sent me on the lesions observed, but still more by a correct appreciation of the natural pathological results in such a disease. In the same way with the spleen : sometimes it is swollen, often excessively, at others not, but never-failing lesions will be those of a hematogenic character varying from capillary to coarse vascular engorgements and hemorrhages of various dimensions. The diffuse capillary engorgement of the kidneys, which

may be considered as pathognomonic of the southern cattle-plague never occurs in this disease, and hence may eventually prove of essential differentio-diagnostic value, should it be finally shown that the germ of the corn-fodder also invades grasses, and causes disease in grazing animals in the Summer months. We shall allude to this question again later on. Acute lesions that will never be missed, aside from the disturbances of the circulation, are those of the dense parenchymatous glandular organs which are essentially specific to the extra-organismal septicemia, and vary in degree from clouded swelling to the most extreme grade of fatty degeneration, as has been shown in the very brief necroscopical notes.

To sum up, then, the corn-fodder disease is an *acute extra-organismal septicemia, due to a microörganism belonging to the class of ovoid, belted germs, to which variety of diseases also belong the swine-plague, southern cattle-plague, wild seuche, hen cholera, and yellow fever in man, but in no case are these micro-etiological organisms one and the same, but each is a specific entity capable only of causing its specific disease under natural conditions, in those animals specifically predisposed to its action from some utterly unknown but equally specific physiological idiosyncrasy peculiar to its species.*

SYMPTOMATOLOGY OF THE CORN-STALK DISEASE.

In endeavoring to portray the symptoms of this disease, we come face to face with a question of exceeding difficulty, because of their very close resemblance to at least two other diseases which occur in cattle in our Western States, and even anthrax itself offers extra vital phenomena which very often more or less closely resemble those presented by this disease, especially in its most acute forms. This fact has led many veterinarians into most serious errors in diagnosis.

In the first place, as to duration, like the swine-plague, this disease may be fatal in twenty-four hours, or it may extend to eight or ten days before such a result occurs. It is not a universally fatal disease, and it is highly probable also of a non-recurrent type.

In the first place, we have to do with an acute blood-poison disease, which, like all such diseases, is accompanied by a more or less excessive exacerbation of the bodily temperature varying, so far as known, from 39° C. to 42° C., that is, from 102.2° to 107.6° F. Such an excessive rise in the temperature must necessarily be followed by equally severe changes in the parenchymatous organs of the body and consequent disturbances of the circulation, which frequently leads to excessive circulation, changes in the lungs, often followed by pneumonia and most insufficient oxidation of the blood; hence, under such cir-

cumstances, one would naturally expect a much accelerated and often very weak pulse and increased respiration, which, when consolidation of the lungs is present, is also very labored. (For a fuller account of these disturbances see my report on swine-plague.)

These disturbances of the circulation frequently extend to the brain, where engorgement and cerebral pressure occurs, which, in some animals, takes on the form of "craziness," as the owners call it. The animals then bellow fearfully and chase other animals, especially dogs, hogs, or fowls, but seldom human beings. This has led to the mistake of their being called "mad" at times, and to this disease being mixed up with anthrax, an entirely different one, by some veterinarians. Other animals stand by themselves, or are depressed and loth to move. Separation from their companions is one of the first indications of illness. As nearly as I can discover, they can all swallow and all drink. This is a very important point to be remembered. As in swine-plague, constipation is a very frequent occurrence, while laxity of the bowels also often occurs, and may be looked upon as a most favorable complication. Red urine does not occur. The visible mucosæ are injected, and often have a yellowish-red tinge. It will be remembered that my inoculated steer drank all the time, and even ate a little during its most ill days. That such sick animals should be disinclined to eat and often to drink, is no wonder, but if clear water is placed before them, no difficulty in swallowing will be discovered. Milch cows soon slacken in their yield of the lacteal fluid, frequently the secretion ceasing altogether for a time.

DIAGNOSIS.

It has already been suggested that this disease cannot be mistaken for the southern cattle-plague. First, because of the season of the year in which the latter occurs, and the absence of Texas cattle. Second, the longer of approaching illness and the general average of its duration, as well as the non-existence of hematuria, red urine, in the corn disease, and the fact that the outbreak in the latter extends more slowly over a herd, and lasts longer under ordinary circumstances, or, in other words, the certainty of exposure to infection of the majority of the animals in the same herd at one and the same time is much greater in the southern cattle-plague than in the corn-fodder disease.

That it bears no relation to the wild seuche of Germany, is shown by the time in which it occurs, the locality and the circumstances upon which, or under which, it occurs, and the absence of enormous edema.

In fact, *when cattle, horses, or other herbivorous animals become*

unaccountably ill, immediately after having been turned into a stripped corn-stalk field, and that illness is accompanied by the phenomena previously detailed, it may be taken for granted that it is the corn-fodder disease, and no other.

PREVENTION OF THE DISEASE IN CORN AND OTHER FODDER.

Were we only in possession of that practical knowledge by which we could invariably tell when the growing corn in our fields was infected with this germ, so dangerous to our live-stock, in those the prevention would be the simple matter of avoiding such corn-fields as places for turning in stock for the past harvest gleaning. From conversation with several farmers, I am quite convinced that even now some of them have quite distinct ideas of the manner in which the corn itself is affected, and that we have only to obtain an exact description of this part of the story from the botanical side to be enabled to totally prevent this disease in our live-stock, so far as the gleaning of our corn-fields is concerned. But this leaves us to face several uncertainties which can only be settled by careful observation by farmers, and exact investigation by competent investigators.

First.—Knowing that the corn fodder is diseased, the question is, Does the germ also penetrate the cob and growing kernel, and can they also cause the disease?

My own opinion would be to doubt it, had I not had very singular experience with a single cob of half-grown corn, and which at the time I did not have suspicion enough to investigate, and was also very busy in other directions and equally annoyed by the owner of a horse which ate some of this corn, so it was said, and it was assumed that the corn has been poisoned by a vicious neighbor. All that was brought me was a "nubbin" ear of half-ripe corn. This was fed to a rabbit, and the animal died three days afterwards. There was every indication of a blood-poison disease. Anthrax was looked for, but not present. The organs were taken by the owner to a chemist, but nothing found therein. Cultures were not made, and only a very casual examination of the blood for bacillus anthracis, as I was busy beyond endurance at the time, and have never had any assistant to whom I could turn over the many such cases which have come to my notice.

This case is simply quoted as a warning worthy of the attention of other investigators.

Second.—Are grasses also infected by this germ, and if so, which?

This last is a very important question, for if they cannot be, then such fields can be used for raising grasses. This can be best determined by actual experiment by intelligent farmers who should turn

such fields into grasses, including patches of millet and clover, and then feed a few cattle with each kind without the admixture of any other herbaceous food.

It would be well if the experiment stations would make suitable arrangements in this direction with intelligent farmers, and bear the expense of using such infected corn-fields for experimentation in about the following manner:

First—It should be thoroughly cleansed of all refuse of the old corn-crop, but not exposed to the action of fire.

Second—A portion should be planted in corn, and if any stalks appear diseased during the growing period, they should be fed experimentally, and under every precaution against accident from other causes, to cattle and also rabbits. The latter might be tried first, as enough is now known of the germ of this disease to enable any competent person to recognize it correctly. When the corn is ripe, the ears should be gathered carefully, and all full ears separated from those incomplete in development. Feeding experiments should be made with both. After the crop of corn has been gathered, a few cattle should be turned into it; and in order to avoid any error, exact methods should be taken to see that they were sufficiently supplied with water and salt.

Naturally, each section of the field should be separated from the other, and if, as Prof. Burrill's letter suggests, such a field as one of "forty acres" can be pretty generally infected, such a one should be used for this kind of experimentation.

Third—Various grasses, including millet and clover, in fact all kinds used for feeding stock, should be planted in lots in such a field; one of each kind should be used for pasturage in the Summer for a few cattle, while the crop of another lot should be preserved for Winter use, and then fed to a certain number of cattle.

It is too much to ask any farmer to do all this at his own expense, but the interests at stake make it the imperative duty of the agricultural experiment stations to do it—this being one of the purposes for which they were created, though Nebraska is the single State that has done its duty in this regard. There are an abundance of public-spirited and intelligent farmers who will gladly support the work. In fact, Mr. McKelvie has written me that he intends to follow out my suggestions as to grasses and millet, with the field he spoke of in his very detailed letter stating his experiences with the disease.

Wherever such a disease has occurred, every stalk and leaf left on such a field should be destroyed by fire, and, until we know to the contrary, the field should be seeded down to hay. There is no ques-

tion but what the infected remnants of the corn-fodder can, upon their decay, cause the further infection of the field by the germ thus becoming free and again developing in the soil.

PREVENTION OF THE DISEASE IN LIVE-STOCK.

In discussing this question, I will limit myself to cattle, because they are the only species of our domestic animals in which the disease causes serious loss; in fact, the only one in which we know to absolute certainty that it occurs.

Some might think it strange if I did not say a word about *treatment*, while my scientific colleagues might think it equally strange should I do such a thing, for medicinal treatment in any curative sense is the height of absurdity in any disease of this class; yet a close study of the clinical symptoms of this peculiar disease, and some knowledge of its pathology, does show that the offering of purgative doses of a saline character, Glauber salts, to cattle, in the very earliest stages of the disease, as well as to every member of a herd in which some have become ill upon exposure to this disease in a stalk-field, is a matter of prophylactic importance. No harm can certainly be done by the thorough cleansing out of the intestinal tract in the animals still undiseased, and as for those diseased, especially, and perhaps only those in the early stages, such a method of treatment is most certainly indicated as a possible means of equalizing the disturbances in the vascular system, and, perhaps, the avoidance of cerebral and pulmonary complications, as well as a tendency to deplete the blood of some of its septic elements, and to check the supply by the removal of so many of the specific poisonous elements as must necessarily occur in such a cleansing of the digestive tract.

Such treatment must, however, take place within quarantined limits, only so that all the manure and litter soiled thereby can be destroyed by fire when the outbreak is over. It must be borne in mind that if the manure and litter from a cattle-yard, where animals have had this disease, is taken out and strewed over a field and then plowed in, and that field is planted to corn, that such corn is very liable to become invaded by this germ and can thus be the cause of more losses in cattle if turned into such a "stalk-field" the ensuing Fall or Winter.

On the eruption of this disease in a herd of cattle which have been used to do the lazy man's gleaning in a stalk-field, the first step to be taken is the peremptory withdrawal of the herd from such a field and such fodder. The next thing to do is either to number, brand or adopt

some other means by which a record can be kept of each animal in the lot, and then take the temperature of each one night and morning. All with a temperature of over 100° F. must be looked upon as suspicious, and those in which it exceeds 102° F. as diseased. Those in which it does not exceed or rise over 100° F. need not cause any worry. There is no need of separating the sick from the well, as the disease is not contagious. As mentioned previously, a saline purgative is indicated for all the animals. Those that die should be cremated, and with them a lot of the litter in the yard. If possible to avoid it, the regular cattle-yard should never be used for such cattle after any of them have become ill. Again, I repeat, in no case should a particle of the manure or refuse from a place where such cattle have been confined, ever be used for fertilizing purposes.

Burn it up, as well as the animals which die.

PATHO-BIOLOGICAL LABORATORY, LINCOLN, Neb., June 1, 1889.

HYOSCINE HYDROBROMATE AS A HYPNOTIC.[1]

BY E. B. POTTER, M. D.

Physician to Monroe County Insane Asylum, Rochester, N. Y.

THE administration of hydrobromate of hyoscine and its action as a hypnotic, has been suggested to me as a subject that would be of interest and might show where its use is indicated in the sleeplessness and delirium of some acute diseases.

Hyoscyamus was always a favorite anodyne with me when in general practice. There are always certain people on whom the effect of opium, chloral, alcohol, etc., seems to increase the nervous, irritable or sleepless conditions from which they suffer, and in such persons a full dose of fluid extract of hyoscyamus generally proved a successful remedy. Hyoscine being freely soluble makes an easy drug to use hypodermically, which is almost a necessity in prescribing for a maniacal or delirious person. Morphine is just as easily administered hypodermically, but among asylum patients, when used merely as a hypnotic, unless given in larger doses than is pleasant, on account of the functional disturbances which it causes seems to stimulate instead of produce rest. Chloral is a good hypnotic, but not easy of administration in many cases. Sulfonal has the same objection among patients who will not swallow what you give them. I might go through the pharmaceutical list and show that hyoscine is the easiest

1. Read as the annual meeting of the Monroe County Medical Society, May 29, 1889.

to administer and the surest to produce the effect sought, which is generally to get your patient to sleep. Hyoscine will produce sleep and will do it without very unpleasant sequences. Small doses seem to excite cerebral action, making a person more active and talkative. It causes dryness of the mouth, and throat, and the pupils dilate to the same extent as in the use of attropia. It is only in large doses that it is hypnotic. In such doses the pulse-rate increases very fast, running up thirty, forty or fifty beats in from five to ten minutes. The patient may be more disturbed for a short time; occasionally violently so. The speech begins to thicken, the limbs become temporarily paralyzed, and in from ten to twenty minutes the patient drops into a profound sleep, which lasts from four to eight hours, and a sleep so profound as to make a family uneasy, and might worry a physician if experience had not shown that he would awake from it, probably improved and with only the trouble of vision caused by the dilatation, and a feeling of lassitude to complain of. It does not constipate the bowels, and, if anything, increases the flow of urine. I have known of only one person who was nauseated by its use, but she would vomit after the administration of any anodyne. It does not seem to disturb the appetite, and there seems no disposition to form a habit. Most of the maniacal and sleepless patients improve in a few days so they sleep without an anodyne, and when it is dropped do not seem to miss it. It was given to two very noisy and destructive patients each night for three months. They then began to improve and its use was discontinued. One has been helping in the kitchen and the other went home recovered a year ago. It could be used frequently where opium and chloral are without the danger of forming a habit. The tablets are a convenient form to carry, and can be used by the mouth or hypodermically as you wish. I began using 1-100 grain sulphate of hyoscyamia tablets, and increased one at a time up to five, going from 1-100 to 1-20 grain, and finding each increase a safe prescription and an increase in the value of the remedy. I now use hydrobromate of hyoscine, and make a solution, nine minims of which contains 1-20 grain, and that is the dose I generally use, except with a violent patient who needs more to quiet a maniacal condition. It may be given in 1-15 grain doses. I have given 1-15 grain, and repeated it in two hours. It is a safe remedy to use. My use of it has been, of course, mostly to produce sleep in violent, destructive, or noisy patients, and those who do not sleep because of the imaginary troubles of melancholia. I have used it in three cases of chronic alcoholism where the patients had the hallucinations of sight, the great fear of harm coming to them, the sleeplessness, etc., that such persons suffer from. In two

cases the patient slept and commenced to improve from the first. The other passed a quiet night from 1-20 grain and slept each night after. I only had to give it three or four nights, the patient becoming quiet, sleeping, eating and getting well in a few weeks so as to go home. One case of mania, recently admitted, badly reduced by hard work and worry, was very maniacal. Her husband was sick, her child had died, and she became insane while caring for them and trying to earn their support at the same time. She had been struggling with three men all night and all day. On admission her temperature was 101, pulse irregular, skipping every fourth beat, slight dullness in the upper part of the lungs, some expectoration of mucus streaked with blood, fetid breath, and teeth covered with sordes. She had a hot bath, 1-20 grain hyoscine, and was held in bed by three attendants until she was asleep. Her pulse ran up some thirty beats, and ceased to intermit. This was at 3 P. M.; at 9.30 P. M. she was awake and very violent. The temperature was 101½. She was given another 1-20 grain of hyoscine, and held in bed until she was asleep, and she had a quiet night. She did not eat anything but milk for several days, had hyoscine at night for four or five nights, and has slept well without it since. She eats some, but as she has the delusion of poison in her food not heartily, does not cough any more; neither does her pulse intermit, and she is doing some hall work each day.

It acted very pleasantly on a patient suffering from cystitis. She was sick and vomiting, and I gave her morphia as she was suffering considerable pain. The next day, she said she was not passing any urine. I used the catheter and changed to hyoscine, thinking the morphia had caused the retention, but had to use the catheter the same, and after a day or two, found considerable quantities of mucus in the urine. Warm water was used to wash out the bladder, and hyoscine to allay the pain, giving a good night's sleep each night, and she recovered in a few days.

It is used in doses of from 1-100 to 1-50 grain in the nervous troubles where the bromides are used with good results. Patients suffering from melancholia sleep well when given 1-25 grain by the mouth. It is an excellent remedy to quiet the excitement following a series of convulsions in elliptic insanity, and will shorten the duration of an attack of recurrent mania because of the sleep secured. It will produce sleep when given hypodermically quicker than morphine, and is one of the best drugs used at asylums as a hypnotic. Acute diseases are not frequent in asylums, but from daily use for four years always getting sleep and never any unpleasant symptoms following, I should not hesitate to use the drug where sleep was needed, always remembering to give enough to put the patient to sleep.

Translations.

GLEANINGS FROM EUROPEAN JOURNALS.

In *Le Progrès Médical* of July 13th, Prof. Althaus, of London, describes a contrivance which he has added to the Sayre apparatus, enabling him to improve upon the old method of suspending patients afflicted with locomotor ataxia, etc.

It consists of a crank and handle firmly attached to one of the legs of the tripod, by means of which he is able to raise his patients slowly and uniformly from the floor. The old method of simply pulling on the cord subjected the patient to much unpleasantness and inconvenience, in being elevated by a series of jerks. The new method is certainly more agreeable to the one undergoing treatment, and less arduous and tiresome to the physician in charge.

Prof. Althaus sums up his experience with suspension in the following words:

I have now made about 450 suspensions on thirty-eight individuals, and, although it is somewhat premature to pronounce definitely upon the subject, nevertheless I am convinced that the suspension method will remain a valuable agent in the treatment of chronic diseases of the nervous system. In some of my cases the results have been truly remarkable. One of my patients, suffering from locomotor ataxia for a number of years, has actually regained his patellar reflexes. The case is that of a man fifty-six years old, whom I have treated since 1885. As far as I am able to learn, it is the first case on record where the patellar reflexes, being absent for a number of years, have reappeared under the influence of suspension.

In the majority of my cases the patients have improved; in a certain number, however, the results have been negative, or nearly so. I have followed this mode of treatment in locomotor ataxia, spastic spinal paralysis, amyotrophic lateral sclerosis, paralysis agitans, neurasthenia, chronic rheumatism, and rheumatic gout.

Profs. Mendel and Eulenburg, of Berlin, have recently published the results of their experience with this method in the *Neurologisches Centralblatt*:

Forty patients were under treatment—thirty-one males, nine females. Of this number thirty-four were afflicted with locomotor ataxia, one with disseminated sclerosis, one with chronic myelitis, one with traumatic neurosis, and three with paralysis agitans.

Favorable results were obtained in the case of disseminated sclerosis, paralysis agitans, and in the majority of patients suffering with locomotor ataxia. Negative results were obtained in five cases of locomotor ataxia.

In the *Sociètè de Biologie* (Paris) of July 6, 1889, Prof. Magnan read a paper on the therapeutic action of chlorhydrate of hyoscine.

In concert with M. Lefort, M. Magnan has employed hyoscine in his service upon a large number of maniacs, and has found its action marvelous. Doses of one milligram calmed his patients in five minutes. No unpleasant effects were observed in its application, except a vaso-motor disturbance in two cases, and a slight syncope in a tubercular patient. The duration of its action varied from five to ten hours. In cases of mania, one obtains, therefore, with hyoscine, an immediate and continued repose, not possible by any other agent.

Prof. Magnan obtained a continued and prolonged sleep with hyoscine in acute alcoholic delirium. In a child with "tic convulsiv" of the face and limbs, the spasmodic movements were almost entirely controlled. The hyoscine employed was prepared by Landenburg.

Depopulation in France.—To combat against the increasing depopulation in France, the Chamber of Deputies, upon the motion of Dr. Jarval, has exempted all fathers or mothers of seven children or over, from payment of poll and personal taxes.

The International Congress for Physiological Psychology took place at Paris, August 5th to 10th, under the presidency of Prof. Charcot.

The new military law in France requires all medical students to serve only one year under the flag, provided they obtain their degree, Doctor of Medicine, before their twenty-sixth year. Failing to do this, they will be compelled, like other privates, to serve three years.

W. C. K.

The Wine Agreed with Them.—Young waiter (at a medical dinner)—"Them doctors use a lot of wine, but I s'pose they kin stand it."

Old waiter—"Dunno about that; I'm thinkin' they're gettin' pretty tight already."

"They don't look so."

"No; but they're beginnin' to agree."—*Philadelphia Record.*

Society Proceedings.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

REGULAR meeting, July 2, 1889,—the President, Dr. ALVIN A. HUBBELL, in the chair.

Dr. HERMAN MYNTER reported and exhibited cases as follows:

CASE I.—*Excision of Elbow-joint.*—Minnie Wett, 18 years of age, entered the Buffalo General Hospital on February 14, 1888. When nine years of age, she injured her left elbow, but recovered perfectly. Since then, however, the arm has several times swelled, and the joint been painful for a time. Two weeks before admission, without known cause, the elbow began to swell, became tender and painful. On examination, a diffuse swelling of the elbow was seen; movements, especially extension, were impaired and painful, some lateral movement possible.

The joint was punctured, irrigated with carbolic acid, and kept in a plaster-of-paris bandage for four weeks. As no improvement followed, arthrectomy was performed on March 24, 1888, by aid of two lateral incisions. The whole capsule was found studded with tubercles, the cartilages more or less ulcerated and absorbed. The epiphyses were in a state of osteo-porosis verging on caries, but were left intact, while the whole capsule was removed.

The wounds were closed with sutures, and an attempt was made to heal them with Schede's blood-clot method, but necrosis occurring in the epiphyses, they were, on May 5th, made to protrude through the incisions, and sawed off.

The cavity was thereafter filled with iodoform-gauze under an antiseptic bandage. Passive motions were used freely and early. She was discharged in July, recovered. She is now in perfect health, and the function of the joint is so perfectly restored that she is able to perform the various duties of an only servant in a large family. Flexion, extension, pronation, and supination are as normal as on the other side.

Of the different methods for excision of the elbow, I prefer two lateral incisions to Langenbeck's long vertical incision. It gives more space than Langenbeck's, while it does not damage the insertion of the triceps and leave scars, which may endanger the movement of the new joint, as in Moneau's and Raux's operations.

CASE II.—*Excision of Hip-joint.*—Patrick Calahan, aged 11, entered the Sisters' Hospital on July 10, 1888. Family history good. For three months he had complained of lameness of right foot, pain in knee and hip. The right leg was flexed in the hip at an angle of 60°, abduced and rotated outwards. Pain on slight movements; no crepitation. Under narcosis, the leg was straightened and put in Volkman's splint, with nine-pound weight, for a few weeks. An abscess formed in Scarpa's triangle, and on August 25th it was opened by incision between the femoral artery and the Sartorius muscle, and three ounces of pus evacuated. Contra-opening was made on inner side of thigh. As no improvement followed, the joint was resected on September 11th by aid of posterior incision, the section being made above trochanter minor. The head, neck, and trochanter were found in a state of caries. He left the hospital in November, 1888. Recovery was retarded by a periostitis, produced by a fall after he had commenced to walk fairly well, but the incisions are now all but healed, the movements in the new joint free and painless, and he walks well with a crutch and a stick, and will, probably, in a short time be able to walk without any support.

CASE III.—*Excision of Ankle-joint.*—Willie McAuliffe, 10 years of age, entered the Sisters' Hospital on August 21, 1888, with tubercular arthritis of right ankle-joint. Poor family history; his mother, one brother, and one sister having died of phthisis.

He received a slight injury on the ankle-joint two years previously; the joint swelled and was very painful; atrophy of calf took place, and he has been unable to walk since. At admission, he could bear but little weight on the foot, and pressure on the plantar surface caused intense pain. There was slight lateral motion present in the tibio-astragaloid articulation with crepitation. Diffuse swelling around the joint, most pronounced behind.

August 24th, arthrectomy of right ankle-joint by transverse anterior incision. The capsule was found studded with tubercles, the cartilages lay loose in the joint, and on posterior surface of the astragalus a small carious cavity was found. The capsule was removed with scissors, the cavity scraped with sharp spoon, the tendons thereafter united with catgut sutures, the wound closed, except in the lateral parts, and the wound healed by Schede's blood-clot method under an antiseptic and a plaster-of-paris bandage. On September 22d the primary bandage was removed, and the wound found healed by first intention. Considerable pressure could be borne without causing pain. He left the hospital the same day. He is now able to walk with ease, and, with the exception of some stiffness in the ankle-joint, considerable atrophy of the calf and the scar, has no traces left of his disease.

This case shows the advantage of anterior incision, by which alone it is possible to remove everything diseased, and of Schede's blood-clot method, by which healing under one bandage is possible. The operation is rare, and has probably not been performed in Buffalo before. I therefore call your attention to it as deserving your consideration in chronic tubercular arthritis of more or less recent occurrence.

CASE IV.—*Total Extirpation of Tongue.*—William Bell, aged 60, was admitted to the Sisters' Hospital on June 4, 1889, with cancer of tongue and floor of the mouth. It was first noticed three months ago, has since been growing rapidly, and has occasioned great pain and emaciation. By inspection a large cancerous ulcer was seen occupying the lateral sides of the whole anterior portion of the tongue and the whole floor, including the sublingual glands. The last posterior inch of the tongue seemed normal.

June 6th, extirpation of the tongue, after Syme's method. After preliminary tracheotomy, the pharynx was plugged with a sponge, attached to a thread, and the lower lip was severed by an incision extending backwards to the hyoid bone. The maxilla inferior was thereafter cut through with a chain saw, and widely separated. With the greatest ease, all the diseased tissues on the floor of the mouth, including the glandulæ sublinguales, could now be separated with scissors from the healthy tissues. The tongue was, thereafter, split in two, and each half pulled out and severed gradually with scissors about one inch in front of the epiglottis, particular care being used in catching the lingual arteries with a hemostatic forceps, before they were cut through. The maxilla inferior was thereafter united with a silver wire, the holes for which were drilled before the bone was cut through; a drainage-tube was led out through the submental region, and the floor of the mouth packed with iodoform-gauze for a couple of days. The patient was fed with the stomach-tube for two weeks. The tracheotomy-tube was removed on June 14th, after which the wound in the trachea rapidly healed. The only after-treatment used was hourly irrigations of permanganate of potash solutions. He has not left the hospital yet, as, so far, there is

no union of the maxilla inferior, but he is perfectly able to present himself for your inspection to-night, swallows with comparative ease, has no pain, and has increased considerably in weight.

Extirpation of the whole tongue has always been looked upon as an operation of greatest magnitude, particularly on account of the bleeding; on account of broncho-pneumonia and gangrene of lung from absorption and drawing down of putrid fluids into the lungs; of suffocation from falling back of the tongue, of edema of the glottis, etc. The preliminary tracheotomy relieves us, in a great measure, of these dangers, and the section of the maxilla inferior makes it possible to perform the operation, so to speak, extra ore. The wound, being made with sharp scissors instead of with the écraseur, will be less apt to inflame and be followed by cellulitis and pyemia. If the floor of the mouth is involved, the operation, which I performed (Syme's), is the only one by which all diseased tissues can safely and surely be removed.

CASE V.—*Excision of half of Lower Jaw.*—William Templeman, aged 37, entered the Sisters' Hospital on January 30, 1889, with a fibro-sarcomatous growth of the posterior part of right maxilla inferior. He had formerly had a cancerous growth of the lip removed with a plaster, by a cancer-doctor in Rome, N. Y.

The growth was removed by partial resection of about two inches of right maxilla inferior, and the patient left the hospital recovered in twelve days. He reëntered the hospital on June 3, 1889, with a large relapse, the size of a goose-egg, between the previous sections of the bone and extending forwards and backwards for a considerable distance along the body and ascending ramus of maxilla inferior. Besides, the whole right sub-maxillary gland was cancerously infiltrated. On June 3d, the whole right maxillary bone, with the growth attached, was removed. As a large part of the skin covering the tumor was infiltrated, it was removed too. Thereafter the sub-maxillary gland was extirpated. The large defect was covered by a plastic operation, the flap being brought up from the neck. The patient left, recovered, in eleven days, with the exception of the unavoidable paralysis of the seventh nerve.

CASE VI.—*Traumatic Loss of Biceps.*—John Hubner, aged 27, entered the Sisters' Hospital on February 20, 1889, with a very peculiar lesion, which I do not know has ever been described before. He was caught by a rope and drawn into a cog-wheel, which, besides producing a great many lacerated and torn wounds, completely tore out the biceps muscle of his right arm, severing it in the center and leaving the upper and lower half attached only by their tendons. The tendons were cut over, the dead muscle removed, and the enormous wound healed by skin-grafting. The biceps is the principal flexor and supinator of the forearm, and we should, therefore, expect a considerable or almost complete loss of these movements. I am astonished to see how well he can, nevertheless, flex and supinate his forearm by aid of musculi brachialis internus, pronator teres, and supinator longus as flexors, and supinator brevis as supinator. Remarkably enough, he scarcely seems to notice his loss.

CASE VII.—*Radical Cure of Hernia by McBurney's Method.*—In *New York Medical Record* of March 23, 1889, Dr. McBurney proposes a new operation for the radical cure of inguinal hernia, which, it seems to me, is based upon correct principles, and has much in its favor. The important point in the radical cure of inguinal hernia is the complete removal of the sac and "the restoration to the peritoneal surface of the abdomen, at the point where the hernia begins, of the same smooth tense condition that exists at other parts of the inner lining of the abdominal wall."

Therefore, the peritoneal laxity at the internal ring, which forms the predisposing cause, must be removed and the peritoneum supported at this point.

In order to do this, McBurney splits the canalis inguinalis up to the internal ring, dissects the sac loose to this point, opens it, reduces the contents and then ligates the sac with strong catgut high up on the level of the internal opening, and cuts the rest off. In order to secure support to the peritoneum, he advocates an open treatment of the wound, in order to secure granulations and a dense cicatricial tissue throughout the whole length and depth of the canal.

Simply sewing together the pillars of the external ring, as usually has been done, is an imperfect method, as it still leaves room for an incomplete hernia above the closed external ring, and the hernia may, therefore, again find its way down. Even if silver wires are used, they will cut their way through on account of the continued tension of the divergent fibers of the pillars, and if catgut sutures alone be used they are so soon absorbed that the hernia quickly returns. McBurney's aim, to insure the formation of granulations from the very bottom of the wound to the surface, is not accomplished by simply packing the wound, as the packing easily may become displaced. He, therefore, inserts four to eight stout silk stitches, which bind together the tissues, and keep the wound patulous. The upper row binds together the conjoined tendon, the aponeurosis of the external oblique (including the inner pillar of the ring) and the skin. The lower row of stitches unites the skin and Paupart's ligament, including the lower part of the anterior pillar.

As the wound thus arranged would be unnecessarily wide, he adds, after having packed it down to the very bottom with iodoform-gauze, a couple of heavy tension sutures across the wound, by which also the tension on the edge stitches is relieved, so that they do not cut their way out too soon. Over the whole an antiseptic bandage is applied, and the dressing is changed every four or five days, till the wound is healed, which generally takes about six weeks. The longer time used by this treatment has its compensation in the fact that the patient has not afterwards to use any truss. I have lately performed this operation, and will here show you the patient.

Thom' Saunders, aged 55, has had a rupture, and worn a truss, for many years. It came out on May 25, 1889, and soon became strangulated. Failing in reducing it under narcosis, I, six hours after, made herniotomy, and combined the operation with McBurney's method for radical cure. A large part of the omentum, which was adherent, was cut off and returned. The gut was intensely congested, but else in good condition. The convalescence was complicated by an attack of delirium tremens, during which he ran all over the house, tried to climb the walls, and did everything to prevent a successful result. The wound is now healed, and, as you will see, no impulse, even by coughing, is produced.

Dr. ALVIN A. HUBBELL reported the following

CASE OF PARALYSIS OF BOTH FACIAL AND BOTH ABDUCENT NERVES, FOLLOWING INJURY.

Henry M.[1]———, aged 23, switchman. On August 21, 1888, while coupling cars loaded with lumber, the young man's head was caught between the ends of the lumber projecting beyond the plat-

1. I am indebted to Dr. C. M. Daniels, Surgeon to the Emergency Hospital, for the privilege of reporting this case, and to Dr. E. H. Norton, Surgeon to the Fitch Accident Hospital, and Dr. C. Kelley, Jr., interne to the Emergency Hospital, for the early history of it. A. A. H.

forms of the two cars between which he stood. He was, afterwards, picked up in an unconscious state, and taken to the Fitch Accident Hospital. From the hospital memoranda we learn that "a scalp wound was inflicted on the left side of the head, over the occiput, and about two inches in length; profuse hemorrhage from the ears, nose, and mouth, with frequent vomiting of blood; pulse, 54; respiration not disturbed." The diagnosis was, "fracture of the base of the skull."

On the following day, August 22d, he was transferred to the Emergency Hospital, and placed under the care of Dr. C. M. Daniels, surgeon to the Erie railroad. He was, at this time, in a semi-conscious state, from which he could be aroused with difficulty. His pulse was about 60, and temperature 90° F. (?) On the left side of the head, just above and behind the ear, there was a semi-circular wound of the scalp, of considerable extent, passing from above, downwards and backwards. The wound was said to be four inches long, although at the Fitch Accident Hospital it was noted as being two inches. The bone beneath did not seem to be fractured. The wound was sutured with catgut, and dressed antiseptically. On the right side, there was slight laceration and much contusion and swelling from above the mastoid process to the clavicle, and the parts were painful and sore.

There was some bleeding from both ears, and as the patient became conscious, it was found the hearing in both was somewhat impaired, most, however, in the right, although ordinary conversation could be heard with ease. There was complete facial paralysis on both sides, every muscle of expression being perfectly immobile, the patient being unable to close the eyelids or move the lips. He could, indeed, "Laugh and cry as from behind a mask," neither smile or frown having any expression in the face. Both right and left abducent nerves (nerves supplying the external recti muscles of the balls) were also completely paralyzed, producing paralytic convergent squint of both eyes. The physiognomy of the patient was thus rendered most peculiar and striking. The vision was a little "hazy," or "smoky," in both eyes, but worse in the right. In the right eye, the accommodation was also impaired and the pupil slightly dilated. The right side of the tongue was dry and rough, and there was total loss of taste, according to the statements of the patient. There was difficulty in swallowing, the muscles of deglutition (probably the palatal muscles) on the right side appearing to be most impaired in function. The patient succeeded better in the act by turning his head to the left side. Only liquids could be swallowed at first. Paralysis of any other part of the body, either of motion or sensation, could not be detected.

The patient, at this time, complained of intense pain in the frontal region of the head, in the eyes, and in the face. This was paroxysmal, coming and going at short intervals.

On the next day, August 23d, there was slight rise of temperature and increased frequency of pulse, and the parts injured, together with the face, were much swollen, and the face was also very red. The pains continued to be severe, requiring the administration of anodynes.

The subsequent history of the case is one of slow improvement. The pains gradually subsided. The patient was able to swallow semi-solid food on the third day, and soon afterwards solid food. The wounds and contusions healed rapidly. The sense of taste had fully returned within a month after the accident. Hearing improved, and the vision, together with the size and reaction of the right pupil, seemed to be normal after a few weeks. A few days after the patient was brought into the hospital, I was asked to see him, and have had occasion to examine him frequently since, and I found the condition of the eyes and ears as above noted. In addition, careful examination of the fundi of the eyes and of the membrana tympani showed no abnormal appearances whatever.

The facial paralysis, at the present time, has so far improved that the patient can nearly close his eyes, and in laughter there is some muscular movement about the mouth and nose. The left abducent nerve has nearly, or quite, regained its function, the left eye moving normally in all directions. The right abducent, however, is still fully paralysed, and the right eye cannot, therefore, be turned to the right. The hearing of the left ear is normal, while that of the right is slightly impaired. Otherwise than the paralysis of the facial and abducent nerves which remains, and the impaired hearing of the right ear, the patient feels that he is as well as before the accident.

Such a combination of symptoms as appears in this case must be exceedingly rare, from whatever cause. It affords an interesting study to determine the character and the locality of lesions that can thus coincidently produce a bilateral paralysis of the facial and abducent nerves, and also more or less transiently affect the sense of taste, the secretions of the mouth, deglutition, the ciliary muscle and iris of one eye, and the senses of vision and hearing.

Fracture of the base of the skull, extending into the petrous portion of each temporal bone, might have been such as to cause paralysis of both facial nerves, but such an injury would, undoubtedly, have also involved other structures so extensively as to terminate the life of the patient. At least, the auditory apparatus would have been so much injured as to produce total deafness. Certainly the abducent nerves could not, almost alone, have been the only structures impli-

cated with the facial. There is no evidence that there was an external injury at or near the point of exit of the facial nerve from the cranium, especially on the left side, sufficient to produce the facial palsy; and, even if there were, the consecutive palsy of the abducent nerves could not thus be accounted for. Neither does it seem probable that a hemorrhage at the base of the brain, within the membranes, could have destroyed the function of both the facial and abducent nerves on both sides, and in their widely different courses, without seriously affecting other nerves and other functions. Nor could there have been a coincident hemorrhage in the pons Varolii or other parts in the course of the paralysed nerves on both sides, without marked paralysis elsewhere.

Where, then, could a lesion take place that would be most likely to destroy the functions of these two pairs of nerves, and at the same time cause the other symptoms? As is well known, the nuclei of several of the cranial nerves are grouped together in the medulla oblongata, beneath the floor of the fourth ventricle of the brain. In the upper part of this region, very near the median line, is the nucleus of the abducens. Just outside of this, and a little below, is the nucleus of the facial. (These nuclei were, not long ago, supposed to be one.) The fibers from the facial nucleus pass inwards and loop around the inner and upper sides of the nucleus of the abducens. Thus there is an intimate relation between the root-fibers of the facial and the nuclei of the facial and abducens.

Therefore, a lesion — for example, a hemorrhage — occurring near the median line in this region could impinge upon or affect the nuclei and fibers of these two nerves on both sides, and very slightly, or not at all, involve other structures. Granting that there was fracture of the base of the skull; granting that there was more or less hemorrhage from the meninges of the brain, yet I believe that the symptoms in this case can be most rationally accounted for on the supposition of a hemorrhage near the median line of the floor of the fourth ventricle, between and affecting the nuclei of the abducent, and the nuclei or root-fibers of the facial nerves. Pressure on nuclei and fibers in near proximity could lead to the less pronounced and less persistent symptoms, such as loss of taste, impairment of vision and hearing, etc., already mentioned.

Dr. M. HARTWIG thought that the lesion in Dr. Hubbell's case ought to be located at the apex of the petrous portion of the temporal bone, probably on both sides.

Dr. FALK believed the lesion to be located in the pons Varolii.

Dr. J. W. PUTNAM agreed with Dr. Hubbell in placing the lesion

in the medulla oblongata, near the floor of the fourth ventricle, because of the respiratory symptoms.

Dr. Alvin A. Hubbell also reported a case of

TOTAL MONOCULAR OPHTHALMOPHGIA, EXTERNA AND INTERNA, CAUSED BY INJURY.

Charles Wolf, aged 22, presented himself to me on May 28, 1889, with the following history: About three and one-half weeks ago, while somewhat intoxicated, he had a quarrel with another man, who "punched" him in the left eye with an umbrella-stick. The next day or two afterwards he was admitted to the Toronto Hospital, where he was under the treatment of Dr. G. S. Ryerson. I have received the following note from Dr. Ryerson regarding the case, dated June 6, 1889:

Charles Wolf presented himself at the hospital about three weeks ago with a slight scar in the lower lid, and protrusion of eye; lid showed a little ecchymosis; ophthalmoscopic signs negative; said he was quite blind; went out in about the same state, except that the protrusion had diminished somewhat.

On examining the case I found an irregularly shaped scar on the left lower lid about three-fourths of an inch long, and running from near the inner canthus downwards and outwards. There was no ecchymosis of skin or ball, or other evidence of a very recent injury. There was complete ptosis of the upper lid, and the eye-ball was very prominent, protruding much farther from the orbit than the right. On raising the upper lid, the pupil was found to be fully dilated, and the ball was totally immobile to voluntary efforts, the patient not being able to turn it, even to the slightest extent, in any direction. By pressure upon the ball it would recede somewhat into the orbit. Ophthalmoscopic examination of the fundus showed the media to be clear, the optic disc pale, and the vessels diminished in size. The vision was entirely lost, the brightest light being imperceptible. General sensation of the ball and of the integument of the lids and forehead of the corresponding side did not seem to be impaired.

It is quite difficult for me to understand how the nerves within the orbit could be so injured as to thus completely paralyse every muscle within the orbit, and the circular fibers of the iris and the ciliary muscle, destroy the function of the optic nerve, and not impair the nerves of general sensation, and the sympathetic fibers, which, unopposed, cause the pupil to dilate. It seems, however, that the point of the umbrella-stick may have entered the orbit, and at its apex injured the nerves, whose functions are lost, although the history of the case does not make this absolutely certain.

Upon any theory of the *modus operandi* of the injury and paralysis, the case is interesting and unusual, as presenting the combined symptoms of proptosis, loss of vision, and total paralysis of all the extra- and intra-ocular muscles.

PATHOLOGICAL SPECIMENS

were then exhibited, Dr. M. HARTWIG showing a *calcarious placenta;* an extirpated *cancerous uterus* from a woman who was, so far, recovering from the operation; a *benign tumor* removed from the uterus; and a tape-worm.

Dr. F. W. BARTLETT showed a placenta from a syphilitic woman, and a gall-bladder, filled with concretions, from a patient who, during life, suffered from peculiar gastric and general symptoms.

Dr. LUCIEN HOWE showed an eye which he had removed containing a large piece of cartridge.

THE BUFFALO CLINICAL AND PATHOLOGICAL SOCIETY.

Regular meeting, July 19, 1889.

The subject of Cholera Infantum was discussed.

ETIOLOGY AND MORTALITY OF CHOLERA INFANTUM.

BY IRVING M. SNOW, M.D.

I WAS requested, a few days ago, to write upon the etiology and mortality of acute intestinal diseases of children, and wishing very much to ascertain how important a role cholera infantum played in the vital statistics of Buffalo, I have diligently studied the reports of the local board of health, for the past three years, seeking to discover the influence of our Summer climate upon young children, and also endeavoring to discover the prevalence of the disease in different wards of the city, the influence of nationality, and of wealth and poverty.

Wasserfuhr, an eminent German authority, states that when the proportion of children born alive who die in their first year exceeds nineteen per cent., the mortality is excessive, and should awaken alarm and vigilance in the community. Bearing this assertion in mind, I have turned to the vital statistics of Buffalo, with the following result:

In 1886, the proportion of children dying in their first year was 19.4 per cent.; in 1887, 21.2 per cent., and in 1888, 22.5 per cent.

Therefore, in Buffalo, the infant mortality is excessive, and is evidently steadily increasing.

Remembering the healthful location of our city, which is not densely populated in any quarter, and the comfortable circumstances of nearly all its citizens, I have again analyzed the vital statistics to discover the cause of the great infant mortality.

Only five per cent. of children under one year die of contagious diseases, only ten per cent. of respiratory diseases, and nearly one-third or thirty-one per cent. of acute intestinal diseases. Thus, the cause of the very large death rate among infants is from acute diarrheal diseases. A very striking difference is to be found between the hot and cool seasons of the year. The average mortality for 1886–'87–'88 among children under three years in the twelve hot weeks, was fifty-four per week, while for the remainder of the year, forty weeks, only twenty children died per week. I therefore find that the excessive mortality among young children is caused by acute intestinal diseases, prevailing in the twelve hot weeks of the year. After diligent study of the vital statistics of Buffalo for 1886–'87–'88, I have prepared a number of tables showing the progress of diarrheal disease among young children through the various weeks of the Summer, the average temperature and humidity, and also the distribution of cholera infantum in the various wards. I will only read the results of my investigations and the conclusions which must be drawn from them.

The total number of deaths among children under three years from cholera infantum, diarrhea, and dysentery was: in 1886, 387; 1887, 515; 1888, 567; showing a steady increase in three years. Although the city is steadily growing in population, I do not believe that the increased death-rate among children is sufficiently accounted for by the greater number of inhabitants. May not this difference be due to a variation in our Summer climate, as it is a well-known fact that one Summer is often warmer than the next. Excessive heat, or a high average temperature during the hot season, does not necessarily cause a large infant mortality from intestinal troubles. Thus, in July, 1886, the mortality was 158, the average temperature being 69.4° F., but in July, 1887, the mortality was 265, 117 deaths more, while the average temperature was 68.4°, one degree cooler. In July, 1887, the number of deaths returned from acute intestinal troubles was 265; in August, the same year, only 168 deaths were returned, ninety-seven less, yet August, the month of the lower mortality, the average temperature was 6.2° greater.

The mortality in Buffalo follows the line of minimum temperature with great regularity. Thus, when the minimum temperature is high (hot nights), the death-rate is high; when the minimum temperature is low (cool nights), the mortality is least. The death-rate from cholera infantum in Buffalo is usually greater in July than in August, but only

when steady heat prevails, the variation in temperature between night and day being usually greater in August than in July. This is easily proven by comparing the death-rate and minimum temperature for the various months. For July, 1886, the minimum temperature was higher (59.1°), and the mortality higher (148) than in August, 143, 53.1°. Also in 1887, in July, the minimum temperature was 67.5°, number of deaths 265, while in August, when the minimum temperature was low, 64.2°, the death-rate was also low (168.) In 1888, August was more unhealthy than July, for the minimum temperature was greater, 59.6° to 64°, in July, while twenty-three more deaths were returned in August than July.

TABLE OF TEMPERATURES FOR JULY AND AUGUST, 1886, 1887, AND 1888,

Showing that the death-rate in children from acute intestinal diseases does not depend upon the heat of the Summer, but follows the minimum (night) temperature with great regularity:

		Deaths.	Average Temperature.	Average Minimum Temperature.
1886	July	144	69.4°	60.3°
	August	141	67.2°	60.3°
1887	July	265	68.4°	67.5°
	August	168	74.6°	64.2°
1888	July	189	67.4°	59.6°
	August	212	67.4°	64.0°

Seibert, in an article upon cholera infantum read before the New York Academy of Medicine, 1888, noticing that a cool Summer may be more fatal than a hot Summer, reached the conclusion that when the minimum temperature reached 60.1° above, and remained so for a week, cholera infantum becomes epidemic, yet I do not think that this assertion holds true for Buffalo, for, the week ending June 23, 1888, with a minimum temperature of 60°, and an average temperature of 74.3°, returned only twelve deaths, and the next week even less (8), while the week ending July 28th was much cooler, the minimum temperature being 54.5, the average temperature 68.4, yet the mortality was 57°.

As. Dr. Seibert's opinion was reached after a most careful investigation, I believe that a lower minimum or average temperature will produce cholera infantum in Buffalo than in New York or Philadelphia; for, turning to the Philadelphia statistics, the average temperature for seven years for the month of June was about 72°, and the proportion of children dying of acute intestinal diseases, to the total mortality was as 1 : 14½. In Buffalo, for July, the average temperature was only 68.4°, while the number of children dying of acute intestinal diseases to total mortality was as 5 : 14.

My own conclusions agree with those of Turner, of Portsmouth, England, who found that a minimum temperature of 50° F. was sufficient to cause a considerable mortality from cholera infantum.

Influence of humidity and rain-fall upon prevalence of Cholera Infantum.—In 1886, a wet season, the average daily humidity was 73.6, and the deaths in twelve weeks were 358. Eighteen hundred and eighty-seven, a dry year, the average daily humidity was 68.5, and the number of deaths was 481. Thus, dry weather seems to favor the prevalence of cholera infantum; a wet year seems to be a healthier year.

An explanation of this may be that a frequent rain-fall tends to purify the air of bacteria, flushing out sewers and pools of stagnant water, and also by laying dust.

Having dwelt rather hastily upon the effects of temperature and humidity upon young children, I will next consider the influence of density of population. It is a well-known fact that in the same community, and during the same season, the infant mortality shows a great variation in different neighborhoods. Nowhere is this more striking than in Buffalo.

The second ward, with the densest population, sixty-three to the acre, shows the lowest infant mortality. This neighborhood is full of boarding and lodging houses and hotels, and might include fewer children in its population than other wards.

The tenth ward, with a population of thirty-five to the acre, and which contains several large infant asylums, has a much lower death-rate than the fourth ward, with sixty to acre.

The eleventh ward, with thirteen souls to the acre, has a lower infant death-rate than the seventh, with twenty-six to the acre. Thus, the eleventh ward, with about 30,000 people, contributed only 6.3 per cent. of the infant mortality from diarrheal diseases, while the seventh, with 40,000 people, gives sixteen per cent. of the mortality.

Again, the twelfth ward, with less than two people to the acre, and 3.2 per cent. of total population furnishes two per cent. of the deaths from acute intestinal diseases among young children; while the tenth, with thirty-six people to acre, eighteen times as dense, and 3.6 per cent. of total population, has a lower death-rate, giving only 1.5 per cent. of deaths. Hence, the ravages of cholera infantum in Buffalo are not dependent upon density of population, for the death-rate in a sparely populated district, as the twelfth ward, may be very high, while in a relatively densely populated district as the tenth ward it may be very low. I may even say that the disease may be more fatal in the country than in certain districts of a city, for, in proportion to the population,

the death from cholera infantum in the sparsely populated thirteenth ward, is twelve per cent. greater than in the tenth, where the population is thirty-five times denser.

A great difference also exists between the neighborhood inhabited by people in easy circumstances and the districts inhabited by the working classes. Thus the mortality in the ninth and tenth wards, which are inhabited by well-to-do families, is really the lowest in the city. I find that, in proportion to the population, the infantile mortality from cholera morbus, in the fifth ward—inhabited by workingmen of German and Polish extraction—is three and a quarter times greater than the infant mortality from the same disease in the tenth, although the tenth ward has thirty-five people to acre, and the fifth only twenty-one to acre. This surprising difference is greater than the ratio existing in the mortality of the English gentility and the English agricultural laborer. Nevertheless, the proof that a low infant mortality from intestinal diseases may prevail among people of the working class, may be seen by comparing the first with the sixth ward.

The first ward, an Irish district, with 7.5 per cent. of population, and a density of twenty-four to the acre, contributes 5.5 per cent. to the mortality, while the sixth ward, a German district, with 11.3 per cent. of the population, and the same density of population, contributes 15.5 per cent. of the total infant mortality from diarrheal diseases, relatively twice as great. This great contrast in the death-rate among the children of the richer and poorer classes is due to the difference in medical care, in personal hygiene, and in the quality and care of milk.

The fifth ward is populated by German and Polish workingmen, drawn mostly from the villages and rural communities of Germany and Poland, yet the mortality among their children is relatively greater among the children of the well-to-do classes, many of whose parents were born in the city, and are city-bred.

The so-called American wards have the lowest infant mortality from cholera infantum; the Irish wards the next; the German wards are next, while the mortality from cholera infantum in the Polish quarter is extraordinarily great. I, however, do not believe that Polish children are unusually susceptible to diarrheal diseases, or that their vital resistance to disease is low. On the contrary, in my opinion, the great mortality among them is due to their crowded dwellings, and to the unsanitary condition of their surroundings, bad water supply from wells, bad drainage, and to the administration of old and spoiled milk to their children. The so-called Polish quarter

is in the fifth ward, which is not densely populated, not more than 2.122 souls to the acre. Yet, with twenty-two per cent. of the population, it contributes one-third (32.5) per cent. of the total deaths from cholera infantum.

In comparing the records of the last three years with Dr. Campbell's table of deaths from diarrheal diseases from 1881 to 1886,[1] I find some striking changes. Keeping always to the mortality of children under three years, of diarrheal diseases, I find that the health of the tenth ward, despite its large infant asylums, has vastly improved. In Dr. Campbell's statistics it ranked sixth in point of health, and returned 5.6 per cent. of the infant mortality from cholera infantum. An average for 1886–'87–'88 shows that now it ranks third in point of health, and contributes only 2.7 per cent., less than half its former proportion, from cholera infantum. A similar improvement exists in the fourth ward district around Main and Genesee—East side. The ward which shows the greatest relative increase is the thirteenth, a ward which I believe has a nearly stationary population. The mortality from cholera infantum has quadrupled in eight years. The ward is sparely populated, the soil is clay, water supply mostly from wells, drainage is bad.

PREVALENCE OF CHOLERA INFANTUM IN DIFFERENT WARDS OF THE CITY, FROM THE VITAL STATISTICS OF 1886, 1887, AND 1888.—WARDS ARRANGED IN ORDER OF DENSITY OF POPULATION. [2]

Ward.	Percentage of Total Population.	Percentage of Deaths from Cholera Infantum.
Second	3 3	1.5
Fourth	4.0	2.8
Third	5 8	5.7
Ninth	3.6	1.5
Tenth	5.8	2.7
Eighth	4.2	3.5
Seventh	15.4	16.0
First	7.5	5.4
Sixth	11.3	15.5
Fifth	20.7	32.4
Eleventh	11.0	6.2
Twelfth	4.2	4.8
Thirteenth	3.2	2.0

ETIOLOGY.

The conditions which predispose children to cholera infantum are sufficiently well known, and require here no consideration. There is

1. BUFFALO MED. AND SURG. JOURNAL, Vol. XXV., p. 193, *et seq.*

2. It is to be regretted that, in comparing the mortality from cholera infantum in the various wards of the city, the writer could find no statistics giving the relative number of children in each ward. It is, however, certain that there are fewer children in the richer districts (9th and 10th wards), than the wards inhabited by the working class.

much evidence to show that the true cause of acute intestinal diseases of children is bacterial infection, usually of the milk. Children who are suckled seldom fall ill of cholera infantum. Among 1,000 children dying of diarrheal diseases only thirty had been entirely breast-fed. Human milk is absolutely aseptic, and resists bacterial infection for a surprising long period of time. Cow's milk, as sold in cities, always contains bacteria. Booker found twelve varieties in cows' milk. A certain amount of heat is necessary to, and favors bacterial-growth diseases. Thus milk not at once cooled, and kept cold, readily becomes infected and poisonous in Summer.

Children in a New York tenement-house live, virtually, in the same atmosphere Winter and Summer; for in cold weather the windows and doors are kept shut, warmth being procured at the expense of ventilation; yet cholera infantum prevails among them only in Summer. The reason is, that in Winter the milk is kept outside the window, in a cool place, while in Summer it is impossible to keep milk cold.

The greater mortality from diarrheal diseases in Summer is due not to the effect of heat upon the child's body, but upon the child's food. Milk turns sour when exposed to a temperature of 60°. The acidification of milk is due to a microörganism, which is the cause of the lactic acid fermentation, and this is just about the minimum temperature when cholera infantum prevails.

Escherich, of Munich, found that the acid fermentation present in disease of the upper intestinal tract was due to bacteria.

Tompkins, of Leicester, found that the air in quarters of the town infected with cholera infantum loaded with bacteria, while in the quarters of the town where cholera infantum was rare, the atmosphere was comparatively free from microörganisms. He suggests the easy infection of milk in the sickly quarter.

Hayems, an Italian physician, observed that when a child suffering from green diarrhea came into his wards, numbers of previously healthy children were attacked with green diarrhea. Disinfection of the excreta, and isolation, caused the disappearance of the epidemic. His pupil, Lesage, isolated a bacillus which, when injected into the blood, always produced green diarrhea, caused by the multiplication of bacilli. Lesage's experiments have been confirmed by numerous observers. Victor Vaughan has isolated a ptomaine, called tyrotoxicon, from spoiled milk, which he believes is the most frequent cause of cholera infantum. He has found tyrotoxicon in many specimens of milk, which had produced vomiting and purging in adults and children. This ptomaine, if extracted from milk and given to animals, produces the symptoms and pathological changes present in cholera

infantum. He found tyrotoxicon in milk taken by a child afterwards attacked by cholera infantum. He believes that the most frequent cause of acute intestinal disease in children is due to changes produced by micrococci in milk exposed to a temperature of over 60° ; that the slight mortality of children suckled at the breast is due to the fact that human milk is free from disease-germs, while cow's milk contains great quantities of bacteria ; mucous and catarrhal diarrhea are due to ordinary bacteria, while serous and choleriform diarrheas are due to pathogenic germs which produce a chemical poison ; that this poison is identical with tyrotoxicon, and may be produced by infecting milk with the bacillus of butyric acid fermentation, and keeping it in a tightly-closed vessel from eight to ten days.

He, therefore, in cases of cholera infantum, recommends the immediate withdrawal of milk, which may contain tyrotoxicon, and the substitution of chicken or mutton broth, or albumen water. The existence of the pathogenic effects of tyrotoxicon have been established by many control experiments. Feebly boiled milk contains no tyrotoxicon, the ptomaine being expelled by heat.

May we not, then, regard cholera infantum as a preventable disease, and cannot its ravages be greatly lessened by greater care in the feeding of children ? This is really a very simple matter. It merely involves keeping the milk clean, putting it in a cold place, and sterilizing it by heat before the child takes it. It involves but little time and slight expense, and would, every Summer, save thousands of children from sickness and death.

SYMPTOMATOLOGY AND PATHOLOGY OF CHOLERA INFANTUM.

BY EUGENE A. SMITH, M. D.

Acute intestinal diseases in children are known under the several names cholera infantum, gastro-enteritis choleriformis, Summer cholera, choleraic diarrhea and Summer complaint. It is defined as an acute gastro-intestinal catarrh in young children, sudden in outset, and of grave prognosis (Conklin). In sickly children, especially those artificially fed, and even among healthy infants, it is not unusual to see in one day the onset of the disease and its progress to a fatal termination.

In diagnosis, it is only to be differentiated from Asiatic cholera and the chronic forms of diarrhea in children known as entero-colitis or Summer diarrhea. The latter trouble differs from cholera infantum

in severity, duration and extent of intestinal tract involved; but the line of demarkation is often obscure.

In brief, the symptomatology of cholera infantum includes two distinctive features, namely, large watery stools, and more or less profuse vomiting. Besides these are found high temperature, pain and prostration, and wasting with their attending phenomena. The prodromal stage, when present, is usually short, lasting from a few hours to one or two days. The child may be feverish and restless, refuse to nurse, and suffer from colic. Often, however, diarrhea and vomiting, rapidly becoming grave, announce the developed disease in a seemingly healthy infant. Where errors in feeding induce the sickness, simple vomiting, or diarrheal discharges of undigested food, may precede the more acute symptoms. Cough, with fever, may precede attacks due to exposure and chilling of the surface of the body. Chronic diarrhea, due to entero-colitis, frequently terminates fatally in the development of cholera infantum, and it may also be said that cholera infantum in its progress to recovery often passes into a chronic diarrhea. I have frequently observed that unhealthy movements of the bowels, preceding the disease, are entirely overlooked by mother and nurses. The child may be costive, straining during defecation, or it may have daily three to several bad-smelling, clay-colored passages, containing undigested milk, for some time before more alarming symptoms set in; but, unless particularly questioned in this respect, the mother misleads the physician by stating the child's bowels were regular. Under such conditions, the onset of cholera infantum may be inadequately treated as simple indigestion, or diarrhea from transient irritation.

After the first bad-smelling diarrheal movement of cholera infantum have swept away undigested matters, feces, and intestinal mucus, the following passages are milky and odorless, and later watery, soaking through the clothing and staining the linen a greenish color. The earlier movements are such as occur in the symptomatic diarrhea of indigestion, and are acid in reaction, but the movements, distinctive of the disease, are watery, due to excessive intestinal secretion, the greenish stain being due to small quantities of bile. Pepper states the excessive fluid is not alone secreted from the glands, but exudes as a perspiration or exosmosis from the entire surface of the intestine; and as the intestinal tract in infants, compared to length of body, is longer than in the adult, we can better understand the rapidity and amount of fluid loss. The movements may be frequent, four or five in an hour, or less frequent and more profuse to the extent of justifying the mother, who lately told me her child could

swim in its own passages. Peristalsis is least free when cerebral complications induce torpidity by dulling reflex intestinal sensibility. Often in such cases it is hoped that the diarrhea is checked, until a copious exhausting movement reveals the amount of secretion which, like a concealed hemorrhage, insidiously drains the strength of the patient away. Naturally, under these conditions thirst is extreme, and the child will drink or nurse with frantic eagerness, only, however, to reject it again. The urinary secretion is small or suppressed, and it may remain so two or three days, if the profuse diarrhea continues. The skin is dry, because the sweat-glands are inactive from want of fluid. The vomiting is not the "driveling" regurgitation of an overfed infant's stomach, nor the sour, curdled milk of the indigestion and fermentation seen in the early hours. Water, medicine, and food are forcibly ejected, and the acid contents of the stomach are later succeeded by alkaline and bilious intestinal secretions. Vomiting occurs readily in childhood, because the cardiac end of the stomach has less sphincter development, and the stomach does not lie transversely as in the adult, but vertically. Besides this, the pelvis is small and the liver large, making the abdomen prominent, and thus in vomiting a greater expulsive force is applied in emptying the stomach.

The temperature of the surface often seems about normal, but axillary measurement reveals 103–105° F. When it is remembered that children are prone to hyperpyretic temperature upon slight irritation, it is not strange that we find high fever where such extensive intestinal irritation coöperates with absorption of products of fermentation and inflammation. In cases developing a cerebral complication, the extremities may be cold and the surface temperature seem subnormal, but the head is hot, with the veins of the scalp turgid, the fontanels pulsating, and the axillary temperature registering perhaps 105° F.

The pain caused by cholera infantum does not seem commensurate to the gravity of the disease when compared with the agony caused by colic. Infants are prone to colic, owing to the lack of development of the muscular structure of the intestine, thus permitting flatulent distension, which creates muscular spasm. In cholera infantum, however, the pain and tenderness are more due to normal peristalsis in the inflamed intestine than to flatulence and spasm. Many cases, indeed, suffer a minimum of pain, and here *post mortem* examination reveals a minimum of intestinal congestion. When intestinal pain exists, it causes fits of crying, with contortions of the body and flexion of the thighs on the abdomen.

Exhaustion and wasting rapidly develop in cholera infantum. The loss of fluid, the muscular efforts in vomiting, and the failure to nourish, are the potent causes. The tissues lose their tone, the skin and lips become dry, the tongue coated, the fontanels sunken, and the features pinched. Unless suffering from the hyperesthesia of cerebral complications, the child soon sinks into apathy, insensibilities and collapse.

The anatomical changes in cholera infantum are those which develop from intestinal inflammation, and they vary according to the duration of the disease. On July 2, 1889, I made a *post mortem* on a well-nourished, nursing baby, thirteen months old, which had died in a convulsion, following a paroxysm of whooping-cough. The child died at nine P. M., July 1st. At four P. M. I had found it feverish, but bright and strong. The nurse reported a profuse diarrhea, with vomiting, which had lasted eighteen hours, and which she ascribed to "teething." Some time before death the vomiting and diarrhea were stopped by the administration of calomel ½ gr. and bismuth gr. ii., repeated at hourly intervals.

On opening the abdomen I found no more than the usual gaseous distension. The peritoneum seemed normal. The intestines appeared normal, with the exception of a few reddened patches in the ileum and colon. The stomach, examined closely, externally and internally, showed no evidence of morbid change. It contained milk not curdled, diluted by the gastric secretions. The intestines contained a milky, thin secretion, and on the mucous surface over the few reddened spots, a slightly tenacious, watery secretion was more abundant. In several places, aside from the reddened parts, the intestine was injected in small patches, the longest not covering a square inch. The injection was arborescent, the spots being round or elliptical in form, and resembling the enlarged microphotographs of the capillary circulation of follicular glands seen in text-books of physiology. In the reddened patches, the mucous membrane was puffed, softened, and its glands rendered more prominent. In no place was there tissue destruction.

Extremely acute cases of short duration often present still less, or even no macroscopical anatomical changes, but the microscope always shows the beginning of an inflammatory process. The apparently normal condition of the intestinal tract found in these cases has led some writers to remove cholera infantum from the list of intestinal diseases, and place it with sunstroke among the cerebral affections. They ascribe the serous discharges and the vomiting to cerebral changes, and they look upon the more pronounced intestinal changes

found in less acute cases as the result rather than the cause of the disease.

In cases which run a longer course, however, as in those which develop in the course of a chronic diarrhea, the macroscopic morbid anatomy is usually more pronounced, approaching that of chronic Summer diarrhea. Rings of congestion about the glandular openings may cause the intestine to present the "shaven beard" appearance, and inflammation may involve much of the lining membrane of the bowel, especially the summits of the intestinal folds in the lower ileum and head of the colon about the region of the ileo-cecal valve. The mucous membrane is thickened and softened, and often small patches of ulceration are found, with enlarged intestinal glands and follicles, and even inflammatory enlargement of the mesenteric glands. Microscopically, the evidences of inflammatory action are found in cell-multiplication, vessel-dilatation, and tissue thickening in the acute cases as well as in those which run a more chronic course.

Hypostatic pulmonary congestion is also a nearly constant feature of this prostrating disease, and is due to circulatory failure. The interesting field of cerebral morbid anatomy belongs, more properly, to the field of another essayist.[1]

TREATMENT OF SUMMER DIARRHEA OF CHILDREN.

BY DELANCEY ROCHESTER, M. D.

In speaking of that part of the subject under discussion this evening which has been allotted to me,—the Treatment of Summer Diarrhea of Children,—it is necessary, even at the risk of some repetition, to refer briefly to the causes which lead up to that dire condition of the bowels which carries off so many of our children under three years of age.

After a careful study of a limited number of cases in my own practice, and quite an extended reference to the literature on the subject,—and there is a great plenty of it,—I have come to the conclusion that the chief causal factors, aside from any hereditary constitutional taint, are: first, improper food; second, heat; third, impure air; fourth, bacterial infection.

Of course, the proper treatment of any disease, when its cause is known, is to remove that cause. Therefore, our first duty is to search for the cause in any given case. The causes enumerated above may act singly, or combined in groups of two, three, or four, as causal factors. Whatever the cause, it is, in my opinion, best to begin the

1. The MS. on this branch of the subject was not presented for publication.—Ed.

treatment of all these cases with a purge; and for that purpose there is nothing better than castor oil; the dose is comparatively small, it goes down easily, and is generally retained. A very palatable preparation of castor oil may be made in the following manner:

R--Ol. Ricini	℥ ii.
Ol. menth. pip.	m. v.
Sodii carb. exsiccat	gr. x.
Aquæ puræ	℥ i.

Dissolve the soda carbonate exsiccat in water, add the oils, and shake violently.

This makes a very thin emulsion, containing two-thirds castor oil, and is quite acceptable to most children. In those cases where castor oil is rejected, calomel is an excellent substitute. In children over three years old, it is often better than castor oil.

The rationale of the purge is that it cleans out the entire intestinal tract, removing all particles of undigested food, bacteria, or other irritating substances that may be present. After the action of the purge, if the first of the causal factors mentioned is the one at fault, the substitution of a proper food is often all that is necessary to restore the child to its place in the ranks of marching humanity.

But what is the proper food?

That is a question that requires careful consideration; and each case must be studied closely to learn what suits it best.

In the study of the patient, the pulse is of little value, because, generally, as soon as touched, the child jerks away its hand, or struggles so that its pulse beats very rapidly. The temperature is of more value, but it, too, is not nearly of as great significance as in the adult. Children will sometimes have a temperature that in the adult would necessarily be fatal, and still recover. The rectum is the most satisfactory place to take the temperature of the child.

But, in intestinal disturbances, there is always at least a congestion of the rectum, so that we often have a certain amount of local heat that must not mislead us. In these troubles, the thermometer in the rectum will often record 107° F., and not infrequently as high as 109° F., without fatal issue.

As the pulse and temperature, then, are not reliable guides, we must note the facial expression, the decubitus in sleep, whether restless or stupid, etc.; but, above all, the physician should personally examine the stools and urine of the child, and not rely upon the reports of the mother or nurse. In that way only can he tell whether the baby's food is properly digested, or is passed through the bowel in an undigested, or partially digested, condition, and whether there are any

abnormal contents in the stool, such as blood, pus, worms, etc. If the child is vomiting, the vomited matter should also be carefully inspected.

Having determined that the food is not agreeing with the child, we return to our search for the best food. In the first year, the mother's milk is, of course, the best, and should be returned to if possible. After the first year, some other milk should form the chief, and for a time after the acute attack, the sole article of diet.

I shall not dilate upon the advantages of ass's, mare's, or goat's milk, as they are all more or less inaccessible. The question that confronts us, then, is how to give cow's milk to an infant under three years of age.

The first answer to this question is, Be sure of your cow, that she is not diseased, that she receives proper food, and is not kept constantly shut up in a stable. If all these conditions are complied with, then be sure that the milk is not carried too far, and that the vessels in which it is placed are kept scrupulously clean. Then, as soon as the milk arrives, dilute it with the proper amount of water, add a little cream and lime water, and sterilize it. The amount of dilution varies with the age of the child and its digestive power. That is the best food for infants in institutions, and in a very limited number of families in private practice. The reason that this number is so greatly limited is, in the first place, that, as a rule, we cannot be sure of our cows; and, in the next place, that we cannot rely upon the sterilization being performed in a thorough manner. Explain the reasons as carefully as we will, it is, nevertheless, a lamentable fact that people who think nothing of spending several hours over the preparation of their own foods, are often very loth to give even half an hour to the preparation of the child's food. Therefore, in the majority of cases, even where we are sure of the character of the milk, sterilized milk is out of the question. We must look for some other substitute. Provided that the milk supply is good, the food suggested by Dr. Arthur V. Meigs some years ago is a very excellent substitute. It consists of—

Cream (14–16 per cent. fat)	2 volumes.
Cow's milk	1 "
Lime water	2 "
Sugar water	3 "

The sugar water consists of sugar of milk, ʒi. gr. viss. to water ℥i.

This combination is more suitable for children under one year of age, being made in imitation of human milk. As the child grows older, the proportionate amount of milk may be properly increased.

For a child over a year old, we may use cane sugar instead of sugar of milk. The food for a child should have cow's milk as its basis, diluted more or less, according to the age of the child. If diluted much, a certain amount of cream and sugar should be added to bring up the proportion of those two constituents, and the milk should be rendered alkaline by the use of lime water. In cases of weak digestive power, partially digested milk is useful. But, unfortunately, in the vast majority of cases in the city, good pure cow's milk cannot be obtained, and we must look for some substitute. In this search for a substitute, we must bear in mind that in childhood, as well as in adult life, the maxim holds good that, "What is one man's food is another man's poison." So we will not be able to find one food that will be applicable to all cases.

Condensed milk, diluted according to the age of the child, with lime water added, and, when procurable, good sweet cream, forms a very good food. For a child under one year of age, the following proportions are good, making a close approximation to human milk:

Condensed milk (Eagle brand)	1 volume.
Cream (14–16 per cent. fat)	1 "
Lime water	1 "
Boiled water	4 "

The objections to this combination are that most of its sugar is cane sugar, and the cream has to be obtained from dealers, and so may be adulterated or otherwise unwholesome.

There are two of the baby foods on the market which I think are useful and especially to be recommended during Summer, because they are both in the form of a dry powder, and need mixing with water only to prepare them for the child. These preparations are "Carnrick's Soluble Food," and "Malted Milk." With the former I have had quite a large experience, with almost uniform success, only very occasionally finding a child that would not take it. Over a year ago I introduced its use into the nursery at the Erie County Almshouse, and last Sunday, July 13th, I had occasion to go out there, and found them still using it, almost to the exclusion of every other form of food. With malted milk I have had a much more limited experience, though the results have been equally good. However, I prefer to recommend the former, because its manufacturers publish its formula, while the Malted Milk Co. keeps its formula secret.

Other foods for infants, which are sometimes useful, are scraped raw beef, fresh beef juice, and Liebig's extract of beef.

The farinaceous foods had better be avoided, except in the case of children of three or more years of age, when they may be useful

adjuvants to the meat, or, in some cases, be used to the exclusion of all else. For example, rice, or rice flour, is a very useful article of diet in the diarrhea of children over three years of age. The following mixture is sometimes of use in cases which tend to become chronic:

Grated chocolate	1 lb.
Arrow root	½ lb.
Sifted sugar	¾ lb.
Rice flour	2 oz.

Mix all well together. Blend a tablespoonful of this mixture with a tablespoonful of water and then add one-half pint of boiling milk, stirring during the addition.

I have found this a very useful food, both for children and for adults who have diarrheal tendencies. The mixture is called "Racahout." What the name means, and where it originated, I have not the slightest idea.

Above all things, in the feeding of children, the *absolute cleanliness* of the vessels used must be insisted upon; and, to quote from a paper that I read before the "Physicians' Club," in December, 1887, "whatever the food we employ, let the amount given be proportionate to the capacity of the child's stomach. It cannot be too strongly impressed upon the mind of the mother that she must not give her child too much food. There is always greater danger from overfeeding than from underfeeding." The child's stomach, at birth, will hold from one ounce to one ounce and a half, according to the size of the child, and its capacity increases at the rate of about one ounce a month for the first year. After that time, reliable statistics are wanting. Moreover, the child should not be fed too often; never oftener than once in two hours, and only so often when one or two ounces are given at a time. But improper food is not the only causal factor in the production of Summer diarrhea of children. Excessive heat, impure air, and bacterial infection each play a contributing part.

Without entering into any discussion of the mode of action of any of these factors—a task which belongs to the preceding papers—I will merely outline the mode of treatment which has been most successful in my own hands.

In the first place, if the heat of the child is excessive, sponging with tepid or rather cool water, ice-water applications to the head, and occasionally to the spine, have been followed by amelioration of the distressing restlessness and delirium that frighten the attendants and weaken the child.

With the so-called antiseptic treatment of children's diarrhea,

namely, the use of bichloride of mercury, sodium salicylate, naphthalin, etc., after the purge, I have had no success.

There are two prescriptions that I took from an article by J. Lewis Smith, of New York, which appeared three or four years ago in one of the journals, that have stood me in good stead in many a case. They are useful only in the first part of an attack, and are to be used in cases of vomiting and diarrhea due to indigestion, accompanied by acidity. For the first twenty-four hours, a powder consisting of—

Pulv. ipecac . .	gr. $\frac{1}{24}$
Pulv. rhei . .	gr. $\frac{1}{6}$
Sodii bicarb. . .	gr. I

is to be given once in four hours.

This alone often sets things all right. If, however, it does not, there is no use pushing it any further. The other prescription then comes into play:

℞—Tinct. opii deodorat. . .	gtt. xvi.
Bismuthi subnitratis . .	℥ ii.
Syr. simplicis . .	℥ ss.
Mist. Cretæ . .	℥ iss.

M. et Sig.—One teaspoonful every three or four hours.

In the more serious cases, with watery discharges, minute doses of calomel will often change the character of the movements and lessen their frequency. When there is much pain and straining, a little opium combined with the calomel has a very happy effect.

It is well not to check these disturbances too suddenly; but, on the other hand, we must not let them run away with us, and astringents have a proper place in their treatment. Of the vegetable astringents, logwood, kino, catechu, and tannic acid are highly recommended, but, in my hands, the mineral astringents have proved more beneficial, and of them the dried sulphate of iron the most useful.

In cases of hemorrhage, alum is probably the best drug at our command. In one very severe case, with bloody mucous discharges, I had a very beneficial result from injecting high up into the bowel a solution of silver nitrate gr. ii. to ℥ iv. of water, and, after this had been retained for half an hour, washing out with a larger injection of borax water. Under the use of this alone three or four times a day, in two days the tenesmus ceased, the mucus disappeared from the stools, and the stools themselves became much reduced in frequency.

Stimulants are seldom needed, but, when needed, they should be given in the form of champagne or brandy, in small quantities frequently repeated. A pint of iced champagne given in the course of

twenty-four, or even twelve hours, to a child two years of age, will sometimes save its life.

In closing my remarks on treatment, I wish to reiterate what I said at first, that I believe that all cases of diarrhea in children should be treated in the beginning with a purge of castor oil or calomel, except cases in which violent hemorrhage from the bowels is taking place.

These are best treated with alum and stimulants, but these remedies should be followed by castor oil as soon as their object is accomplished. Then the diet should be carefully regulated, and such other steps taken in the way of medication as are indicated by the case in hand.

THE International Congress for the study of questions relating to alcoholism was opened July 29th—Dujardin-Beaumetz in the chair.

The first question taken up was Drinking Places and the Consumption of Alcohol.

After a thorough discussion by Drysdale of England, Vaul-Leroy of Brussels, Petihan of Liege, Ivonsco of Roumania, Millet of Switzerland, Candelier (Belgium), Neiff of Switzerland, Gourand and Dubrandy of France, the following resolutions were passed:

First.—That the increase of the consumption of alcohol is the principal cause of insanity, of suicide, and of crime.

Second.—That the reducing the number of saloons is one of the means of reducing the consumption of alcohol. The Congress issues this request that the Government take the necessary measures for diminishing the number of drinking places.

The Congress then discussed The Deleterious Influence of the Abuse of Alcoholic Drinks. After discussion, the following resolutions were adopted:

First.—The Congress, in face of the dangers with which alcoholism menaces society, issues this request, that alcoholics, who are convicted of a violation of law, or of a crime, but who receive the benefit of a judgment of not guilty, because of their irresponsible state, shall be confined in special institutions, which shall be rather houses for treatment than houses of correction.

Second.—That the Congress of Paris, like the Congress held in Brussels in 1880, issues the request that chronic alcoholics having lost their power of self-control, shall be under the supervision of the public minister, arrested and placed by sentence in one of these special institutions.

The third question for consideration was Healthy Drinks for the Masses. The following resolutions were passed:

The Congress, considering that the impure alcohols are eminently toxic, and that even ethylic alcohol can be dangerous, and that it would be useful to keep under surveillance places where alcoholic drinks are sold, issues this request—

First.—That impure alcohols shall be prohibited, and that a very high tax shall be placed upon pure alcohol.

Second.—That the tax on healthy drinks shall be lowered.

Third.—That drinking places shall be placed under active surveillance, and that toward this end municipal laboratories shall be established.

Fourth—That saloons under surveillance shall be established near the laborers' quarter.

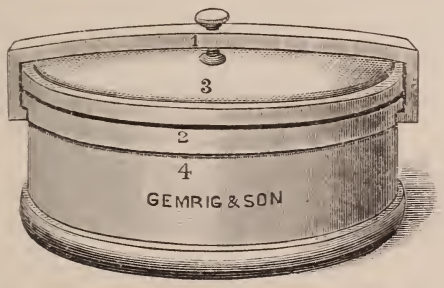
Fifth.—That temperance cafés shall be established.

—*Journal de Médicine de Paris*, August 4, 1889.

New Instruments.

At the regular meeting of the Philadelphia Obstetrical Society, held June 7, 1889, Dr. H. M. Weeks, of Trenton, N. J., exhibited An Antiseptic Ligature Box.

This box is presented to the profession for preserving and carrying ligatures that have been prepared and rendered aseptic or antiseptic, enabling the operator to cut his ligatures and sutures, at the time of operating, without danger of soiling or infecting the portion not required for immediate use. It is made of a fine quality of earthenware, thus securing strength and durability; at the same time, it is



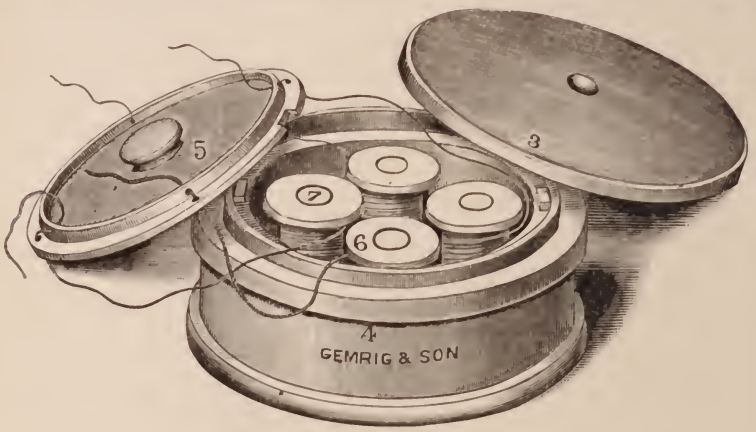
light, compact, ornamental; and last, but not least, it can be furnished at a price that will enable every one practising surgery to provide himself with one or more. The box can be had in any color desired, or with any decoration the consumer may wish.

The accompanying cut represents the different parts as follows: The box is round, four inches in diameter and two inches high, with an outside cover, No. 3, that is held in position by a neat clamp, No. 1, which, when adjusted, is prevented from slipping by a slot on either side of the band or flange at the top of the box, the screw holding the cover tightly down upon the rubber washer, No. 3, which encircles the top, and renders the box absolutely air and fluid tight, so that the ligatures can be carried constantly in any solution desired without danger of leakage.

The inner cover, No. 5, is a flat disk with a slot cut in the edge to allow it to be placed in position, and held by two small catches placed on opposite sides of the box; the small knob in the center serves to turn and place and remove the cover. There are four holes perforating this cover for the four sizes of silk generally used; and half an inch from the edge of the cover there is a raised band, also perforated, for the silk to pass, thus making it impossible for the end of

the ligature to drop back into the box when cut. This cover rests upon a ledge, and is left in place except when necessary to fill the reels or spools with silk, or the box with solution.

The reels or spools, No. 6, four in number, stand upright, and are held in position by separate spindles, No. 7. The whole box is



highly glazed; there is no metal or anything that can be acted upon by any solutions, and the material from which it is made can be subjected to any amonnt of heat, either dry or by boiling. It can be taken apart in a very few seconds, and every part thoroughly cleansed.

Should any of the parts break, they can be replaced, as they are interchangeable.

They may be obtained from J. H. Gemrig & Son, 109 South Eighth street, Philadelphia.

Merck's Bulletin for June, 1889, contains a table of especial value, giving, as it does, the *Maximal Doses*—by grains and grammes—of 113 of the newer remedies. For many of these remedies no reliable table of dose limits has hitherto been published in this country, and therefore its importance will at once be recognized. For the benefit of those who may desire to possess this table we will say that it may be obtained by addressing "Merck's Bulletin, No. 37 William street, New York." The Bulletin is published once a month, and gives the latest information concerning all the newer remedies as they appear. It is a useful publication, and well worth the small subscription price of one dollar a year.

BUFFALO MEDICAL AND SURGICAL JOURNAL

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THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

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Editorial.

THE BROWN-SÉQUARD FLUIDE TESTICULAIRE.

IN THE July number of the *American Journal of Insanity* appears a letter from Dr. J. B. Andrews, from which we extract that portion referring to Prof. Brown-Séquard and his fluide testiculaire:

My next visit was made to Prof. Brown-Séquard, who has been so long and favorably known to the profession in America for his physiological researches, from his being the physician to the late Senator Sumner, from his lectures delivered in New York, now eleven years since, and from his published writings. I called upon him during the hour of one of his reception days, and was immediately ushered into his office. I found him feeling much stronger and better in health, as the result of some recent experiments made upon himself. He began at once to speak of his latest work, and the rejuvenating effects experienced by him. From his statement one might fairly conclude he had finally discovered the fountain of youth, but as he has already placed his experiments before the medical world in the last number of the *Gazette hebdomadaire*, I send you a translation made for me by Dr. Sherwood Dunn, formerly of New York, but now a graduate of the Paris Faculty of Medicine, and practising in that city. I know that your readers will be interested in a discovery which affects both the physical and mental life of man, removes all the deterioration of age, and reinstates the vigor of full manhood.

"Prof. Brown-Séquard made a verbal communication to the Society of Biology, of Paris, Saturday, June 1st, describing the remarkable effects which he had observed upon himself, following the subcutaneous injection of a liquid obtained by crushing the fresh testicles of guinea-pigs and dogs, with the addition of a small quantity of water.

The effects were such, that for himself he does not hesitate to declare that they were equivalent to restoring to him the vigor of several years. It is important to state that the savant president of the Society of Biology is seventy-two years of age, having been born April 8, 1817. During the past ten years his general vigor has notably diminished. His strength permitted of his remaining standing only a half-hour daily at his laboratory work; and he became exhausted after directing it for three or four hours in a seated position.

To the great astonishment of his assistants, the day following the second injection of the liquid, he could remain on his feet, at his work, for even three and one-quarter hours, without feeling a degree of fatigue that would cause him to sit down.

Other proofs of augmented vigor are given by the celebrated Professor. The bladder and the large intestine have notably gained in strength. The jet of urine, carefully measured after breakfast, during about ten days preceding the first injection, was inferior in distance, to the point of striking the walls of the water-closet cuvette, by about one-quarter of what it has become after the two first injections.

We need not say that these experiments have been made in conditions that assure their value, by similarity in food and drink, as well as in quantity and character. But the intestine has furnished a still greater proof to the learned experimenter. For many years he has been obliged, like many people of advanced age, to give mechanical aid to the action of the rectum. He no longer needs this assistance, even in the expulsion of matters much larger in size than has been his habit.

By the dynamometer he has also found an incontestible augmentation in the strength of his limbs, the forearm in particular. The average trials after the first two injections are superior, by six or seven kilogrammes, to those made before.

Though he is now subjected to greater causes of fatigue in his laboratory than formerly, he does not feel the necessity, as has been his constant habit for ten years past, to retire to bed immediately after the meal, hastily taken, upon returning from his experimental labors. Moreover, he affirms that intellectual work has become easier to him, and that he has regained, in this respect, all that he had lost for a number of years past. Also, he has noticed a marked augmentation of forces, which, although not lost, were sensibly diminished. These remarkable effects have been obtained, as we have said, by employing a process which we will describe after having noted how he was led to make these experiments.

We all know that eunuchs, or at least those who, in childhood, have been deprived of their testicles by ablation of these organs, and not by crushing, are weak mentally, morally, and physically. It is known, also, that a characteristic weakness exists in men, even young and naturally vigorous, who abuse the sexual power. These facts and some others have led Dr. Brown-Séquard to believe, and to teach, as he did in his lectures, in the School of Medicine, in 1869, that if it were possible to inject sperm, without danger, into the veins of old men, one could obtain in these manifestations of renewed youth. Guided by this idea, he made experiments in 1875 upon a dozen of old dogs, and tried in vain, with one exception, the injection of the sperm of guinea-pigs alone, and of the sperm of this animal mixed with that of the dog. The success obtained in the one case confirmed the views of the Professor, but the experimental processes were not such as could be used upon man. A few years since there occurred to the mind of the learned Professor another mode of application, and this is the one he lately employed upon himself. It consists in placing a ligature around the vasculo-nervous hilum of the testicle of a guinea-pig or dog, and, after having cut off this hilum above the ligature, one extirpates the whole testicle. The mass thus extracted is crushed, gland, blood-vessels and membranes together, from two to five cubic centimetres of distilled water are added, and the whole is thrown on a filter. Of the liquid thus obtained, part is employed immediately in a subcutaneous injection, and the remainder preserved in a vessel surrounded by ice, for subsequent injections. At the date of this article, eight of these injections have been made, six upon the lower members, and two upon the left forearm. These injections were made upon the 15th, 16th, 17th, 24th, 29th and 30th of May last. The average quantity of liquid employed for an injection being about one cubic centimetre. The three first injections were made with the liquid obtained from a dog; the others with the liquid coming from several young or adult guinea-pigs.

It seems certain that the liquid obtained from the dog's testicles was more efficacious than that of guinea-pigs. Nevertheless, it is on the day following the use of liquid obtained from a very young guinea-pig that Prof. Brown-Séquard found the maximum of favorable results.

We need not say that, before making these experiments upon himself, the learned Professor tried them numerous times upon animals, chiefly to make sure there was no danger in the injection of this special liquid under the skin. Its innocuous properties being satisfactorily demonstrated, the experimenter thought he could, with impunity, proceed with the injection upon himself. He was mistaken in some regards. Five of these injections, out of eight, gave him prolonged and intense pain (from five to twelve and fifteen hours), and an erythematous inflammatory swelling. Two of the points of injection are still painful; one five and one ten days after the operation.

Prof. Brown-Séquard ends his communication with the remark that the effects produced upon himself may possibly be attributed by the reader to his imagination; and he hopes that other physiologists will repeat his experiments, and demonstrate whether or not these effects are to be attributed to a special idiosyncrasy, or to a sort of suggestion without hypnotisation, augmenting the vigor of the nervous centers, and more especially the cord, or if it is due, as he thinks, to the influence of the fluid injected.

Many particulars are to be studied in order to resolve the great question attached to these interesting experiments, and Dr. Brown-Séquard will make them the subject of further communication to the Society of Biology."—*Gazette hebdomadaire*, June 7, 1889.

The Professor was so occupied in telling us of his supposed discovery that none of the time we felt at liberty to claim from him could be given to converse upon general subjects. I left him, thoroughly impressed by his genial manners and his kindness of heart. He is seventy-two years of age, has an appearance of more than ordinary vigor, is a constant worker in his laboratory, and retains a position in a school which demands annually an exhibit of original investigation as the *sine qua non* of its continuance.

I do not feel that, in writing this letter, I am doing justice either to your readers or to myself. You may, however, consider it as an introduction to the article concerning Prof. Brown-Séquard which accompanies it

This will give our readers the most important information obtainable upon this subject up to the present.

We notice that Dr. Andrews is careful not to express his opinion concerning the injection of the fluide testiculaire.

Time and experience alone will tell whether the learned Professor has been deceived or not. A few isolated cases are not of sufficient weight to convince. By all means, let the experiments be multiplied, and the reports be published.

We hope that care will be taken in choosing the animal whose testicles are to furnish the vital force, for, should the injection have the latent power of transmitting the animal characteristics, we should have pugnacious old men rejuvenated by extract of bull-dog, playful old bald-heads indebted to some spaniel. The weasel might be utilized

for producing watchfulness in aged detectives, for who ever caught a weasel asleep.

The possibilities of this injection are great, its probabilities small, but we should by no means pre-judge any announcement from so eminent a source.

HEALTH PHYSICIAN EDWARD CLARK, of this city, has received the following letter from Dr. John S. Billings, Surgeon United States Army, who has charge of the Mortality and Vital Statistics of the Eleventh Census:

DEPARTMENT OF THE INTERIOR,

CENSUS OFFICE, WASHINGTON, August 21, 1889.

DR. EDWARD CLARK, *City Health Physician, Buffalo, N. N.:*

DEAR SIR—Having been placed in charge of the vital statistics of the next Census, it is my desire to make them as complete as possible in relation to the death-rates in different parts of the United States, and for this purpose I am desirous of having returns from the City of Buffalo as complete as possible.

The Superintendent of the Census will make a formal application for permission to have copied by clerks, who will be sent for that purpose, the registers of death filed in your office for the census year beginning June 1, 1889, and I sincerely hope that it will be found convenient to grant this request.

A special effort will be made in this Census to obtain the statistics of the mixed bloods between whites and blacks, that is, of mulattoes, quadroons, &c. Under the terms of the law, these are to be specially enumerated and distinguished from the pure whites and pure blacks, and it is highly desirable that we should, as far as possible, in all records of deaths of colored persons, have the information as to whether the decedent was a pure negro or of mixed blood, in order to prepare comparative death-rates for that class. I would therefore respectfully ask of your Board that, if possible, it be distinctly recorded on the death certificate of every colored person dying in Buffalo, between June 1, 1889, and May 31, 1890, whether the decedent was probably a pure negro or of mixed blood, such as mulatto, quadroon, &c.

Do the certificates of death occurring in hospitals, sent to you for registration, contain the street and number from which the patient was sent to the hospital? If not, can you not undertake to obtain this information for all deaths occurring in hospital during the census year, beginning June 1, 1889?

Hoping that you may be able to grant these requests, and will use your best influence with the physicians of the city to have these records made as complete as possible, I remain, Very respectfully,

JOHN S. BILLINGS, *Surgeon United States Army.*

In charge Mortality and Vital Statistics Eleventh Census.

Inasmuch as Dr. Billings has chosen Buffalo as one of the cities whose mortality is to be copied, it is sincerely hoped that all physicians in the city will see to it that all death certificates filed by them are full and complete. The information which he is aiming to obtain

relative to the death-rate among the colored races is very important indeed. We have the assurance that the Board of Health will extend to Dr. Billings' representatives every courtesy, and render them all the assistance possible in carrying out this very important work. A careful perusal of the letter will indicate the points upon which Dr. Billings requires special information.

Rochester has done herself great credit in establishing an Infants' Summer Hospital at Charlotte, on Lake Ontario, which is due to the munificence of the public-spirited and philanthropic citizens of that enterprising city. Dr. E. M. Moore is President of the Association, and Dr. George W. Goler is the Attending Physician. There are accommodations for twenty children, and any child suffering from intestinal disorder is treated free of charge. Let Buffalo follow this praiseworthy example.

We have published elsewhere the results of the International Congress for the consideration of questions relative to Alcoholism.

Especially worthy of thought are the resolutions adopted, to recommend that chronic alcoholics, guilty of a breach of law, shall be sent to houses of detention, whose object shall be rather to cure than to punish.

We can but wish that the United States had been represented at this Congress, and that there might be a chance that the ideas advanced could find root in this country.

Society Meetings.

The American Pediatric Society will hold its annual meeting in Washington, D. C., September 20 and 21, 1889.

The American Gynecological Society will hold its annual meeting in Boston, September 17, 18, and 19, 1889.

The Mississippi Valley Medical Society will hold its annual meeting at Evansville, Ind., September 10, 11, and 12, 1889.

The Association of American Physicians will hold its annual meeting at Washington, D. C., September 18, 19, and 20, 1889.

The American Society of Microscopists held a very successful meeting in this city, August 20–23, 1889. Dr. George E. Fell, of Buffalo, was elected president for the ensuing year.

The American Association of Obstetricians and Gynecologists will hold its annual meeting at the Burnet House, Cincinnati, September 17, 18, and 19, 1889. The programme is an exceedingly interesting one, and all interested are invited to attend.

Medical College Notes.

The College of Pharmacy.—The announcement of the Buffalo College of Pharmacy has been received, and several interesting features are noticed. The three senior members of the original faculty have either retired or been called to a larger field of labor, but they remain identified with the college as follows: Professor Witthaus, of New York, as Emeritus Professor of Pharmaceutical Chemistry and Toxicology; Professor D. S. Kellicott, of Columbus, O., as Emeritus Professor of Botany and Microscopy, and Dr. E. V. Stoddard, of Rochester, as Emeritus Professor of Materia Medica.

Professor Vandenbergh, who formerly had the chair of General and Analytical Chemistry, has succeeded Professor Witthaus; Dr. Ernest Wende, of this city, has been promoted from Instructor to Professor of Botany and Microscopy. The instruction in Professor Stoddard's department is to be given by a pharmacist and a physician jointly, Dr. John R. Gray giving instruction in Pharmacognosy, and Dr. Eli H. Long being Lecturer on Materia Medica.

Professor Oscar Oldberg, of Chicago, is to give a special course of suggestive lectures on the Seventh Revision of the Pharmacopeia. Dr. Vandenbergh has been elected Dean of the Faculty, Dr. Wende Registrar, and Dr. Gregory continues as Secretary and Treasurer. A laboratory of pharmacognosy has been provided for, and the instruction in every department has been increased as much as practicable.

The Junior course shows an increase from 253 hours to 275 hours actual instruction, and the senior course from the 242 hours last year to 275 hours this year. Fully half of the instruction is now given in the laboratories.

Obituary.

Dr. Theodore Dimon, of Auburn, N. Y., died July 22, 1889, aged seventy-two years. He was formerly superintendent of the Asylum for Insane Criminals at Auburn, and medical officer of the State prison. He was a regimental surgeon in the late war, and a member of the Military Order of the Loyal Legion at the time of his death. Dr. Dimon was an influential member of the profession, an active worker in medical societies, and a forcible writer.

Dr. Alexander B. Mott died at his home in New York, August 12, 1889, after a brief sickness. The son of the great Valentine Mott, he was himself a surgeon of some renown. He was a surgeon of United States Volunteers during the late war, and a member of the Military Order of the Loyal Legion. He established the Mott Memorial Library, and taught surgery in Bellevue Hospital Medical College for some years.

Personal.

Dr. William C. Krauss, formerly of Attica, N. Y., but now of this city, was elected a member of the American Society of Microscopists at its recent meeting held here.

Dr. Joseph Price, of Philadelphia, has operated sixteen times for extra-uterine pregnancy, with but one death. The death occurred fifteen days after the operation, and was wholly due to the patient's own indiscretions.

He has also just completed another series of 100 consecutive abdominal sections, without a death, most of which were desperate cases, drainage having been necessary in over fifty per cent. of them.

Book Reviews.

A System of Obstetrics by American Authors. Edited by BARTON COOKE HIRST, M. D., Associate Professor of Obstetrics in the University of Pennsylvania. Volume II. Illustrated with 221 engravings on wood. Philadelphia: Lea Brothers & Co. 1889.

The second volume of this valuable work aims to supplement the contributions to obstetric literature, published in the first volume, by embracing a wider range of subjects from the pens of American writers. A composite treatise in this department of medicine is a new venture, and possesses the merit, or advantage, of grouping a series of monographs from the ablest writers and teachers, which will command from the profession especial favor. This series of papers have been well selected, and the authors are men of marked ability in the special subjects assigned them. The editor has exercised rare judgment in the important position for which the publishers designated him, and the two volumes which have been published are works of real worth. In closely examining them, their purpose to aid the experienced obstetrician, rather than the student, is apparent. Even at the risk of the conflicting opinions, here and there given, there is a freshness and vigor in these monographs which increase their value and command the attention of the reader. We regard this feature one of great merit, and adds peculiar value to the work.

The first paper is from the pen of Dr. Theophilus Parvin, and embraces a wide range of interesting subjects, well grouped together, including Lacerations of the Uterus; Injuries of the Vagina, Vulva, and Perineum; Inversion of the Uterus; Hemorrhage during and after Labor; Eclampsia; Injuries to the Child during Birth, including the Plastic Changes occurring on the Head; Wounds of the Scalp and Face; Fracture of the Cranial Bones; Paralysis of the Facial Nerve; Injuries of the Muscles of the Neck; Injuries of the Arms, Trunk, and Lower Extremities. A valuable paper is given on Sudden Death during and following Labor, and on Diseases of the Mother, with reference to Labor. Dr. Parvin shows his long training and experience as a teacher, and his great experience as an obstetrician, in this contribution.

The Forceps and Embryotomy, by Dr. Edward P. Davis, of Philadelphia. The writer traces the history of the forceps back to the father of medicine, and gives due credit to the Chamberlens for reviving their use. The general indications for the use of the forceps are judiciously given. The axis-traction forceps, introduced in 1877 by

Tarnier, are not as forcibly urged on the general practitioner as we think their importance and value demand. While it may be true, as the writer states, "that the high application may not be necessitated for years in the practice of many physicians," the ordinary long forceps cannot fulfil the indications met by the axis-traction forceps. We regard Tarnier's instrument to be a most valuable addition to the armamentarium of the obstetrician, and, in our opinion, it should supplant all others in the high operations.

The subject of Embryotomy is ably discussed by the same writer, and also the indications and methods for its performance, and the instruments used. The question of choice between embryotomy or craniotomy, and the modern Cesarean section, gastro-elytrotomy, Porro's, or the Porro-Müller, operation, is discussed from the basis offered by statistics, rather than from the high moral principles involved. On this point, the author is open to criticism. The advances made in abdominal surgery makes the future of the Cesarean section as an elective procedure, in cases in which the fetus cannot be delivered *per vias naturales*, full of promise. The trend of professional thought is in favor of the improved Cesarean section. Our American operators, even if "they do not equal those of Germany, who are far in advance of all others," are making rapid strides for supremacy, which we confidently believe they will reach.

The Premature Induction of Labor is from the pen of Dr. James C. Cameron, of Montreal, and is an important contribution to the literature of the subject. A paper on Version is from the same author.

The Cesarean Operation, Symphysiotomy, Laparo-Elytrotomy, and Laparo-Cystectomy, by Robert P. Harris, M. D., of Philadelphia. The histories of these major operations in obstetrics are given, also the indications, the technique, and the new methods, and the results. The author gives a fair statement of the value of each method, without making any comparison of their advantages, and his paper is all the more valuable on this account. The reader is supposed to be able to draw his own conclusions.

Dr. Henry J. Garrigues, of New York, the apostle of antisepsis in midwifery in this country, presents a monograph on Puerperal Infection. The microbic theory in the causation of this scourge of the lying-in-room is fully endorsed. He believes the domain of the microbe is widening more and more, and leads us to infer, also, that the benign forms of fever and inflammation connected with the puerperal period arise from this cause. The term puerperal fever is discarded by the writer, and septicemia is not favorably considered. Puerperal infection suits the author much better, and is adopted, as a

term which points out where the disease comes from, and teaches the proper measures to prevent it. Dr. Garrigues wisely limits the discussion of the nature of puerperal infection, its etiology, pathology, symptoms, diagnosis, and prognosis, and devotes much space to a detailed description of the means by which infection is prevented and treated. Herein is the value of this paper to the practical obstetrician, and we find it full of the most minute directions, all of which are valuable, and, if strictly carried out, afford a rational prophylaxis and an effective treatment for this disease.

Dr. Garrigues also furnishes a paper on Inflammation of the Breasts and Allied Diseases connected with Child-birth, including sore nipples, deep inflammation of the nipples, eczema of the areola, cellulitis and adenitis of the areola, erysipelas of the breasts, lymphangitis of the breasts, mastitis, cold or chronic inflammation of the breasts, swelling and milk-retention in the axilla, mastitis of the new-born, and fistula of the breasts.

Etiology of Puerperal Fever, by Harold C. Ernst, M. D., of Boston. The writer aims to show the nature of the so-called puerperal fever as it appears in the light of modern research. First, That puerperal fever is not a specific disease. Second, That these infectious wound-diseases are never endogenous, but always exogenous, in origin. Third, They are produced, in all cases, by the action of living ferments.

Some Complications of the Puerperal State, independent of Septic Infection, by Barton Cooke Hirst, M. D., Philadelphia. The title of this section, Some Complications, gives the writer a wide scope, and we find here a grouping of non-septic conditions and diseases which, if fully considered, would make up a complete volume. The necessity for condensation, in order to treat the great variety of subjects, renders fullness and clearness of description impossible. The range of subjects is great, viz.: involution and its abnormalities, displacement of the uterus, dislodgment and disintegration of clots at the placental site, puerperal hematoma, non-infectious fevers, constipation, pneumonia, pleurisy, the exanthemata, puerperal diphtheria and malaria, rheumatism, gonorrhea, diseases of the urinary system, abnormalities of the milk secretion, relaxation of the pelvic joints, etc. The author evidently intended to omit but few of the complications of the puerperium, and in this respect at least he has gathered much valuable matter, which will aid the obstetrician in his researches.

Insanity and Diseases of the Nervous System in the Child-bearing Woman, by James Hendrie Lloyd, M. D., of Philadelphia. Dr. Lloyd divides the subject into two general divisions: First, Puerperal

Insanity and the Insanity of Pregnancy and Lactation, which includes the definition of puerperal mania, its history, frequency, causes, symptoms, diagnosis, prognosis, pathology, and morbid anatomy, and treatment; the influence of pregnancy, parturition, and lactation on insanity; the medico-legal aspects of the insanities of pregnancy, the puerperium, and lactation. Second, Occasional Neuroses of Pregnancy and the Puerperium, including cerebral embolism and hemorrhage, chorea of pregnancy, tetanus following abortion and labor, tetany, epilepsy in pregnancy, cerebral hemorrhage and embolus in pregnancy and the puerperium, and pressure palsies following labor. The writer presents a most valuable paper, which we have examined with great interest and with profit.

The Management and Diseases of New-born Infants, by J. Lewis Smith, M. D., of New York. The reputation of Dr. Smith is a guarantee of the value of this monograph. He treats of the care of the infant, congenital malformations, as acrania, meningocele, encephalocele, hydrencephalocele, spina-bifida, congenital abnormalities of the circulatory system, tetanus or trismus neonatorum, ophthalmia neonatorum, (purulent and gonorrheal), icterus, umbilical regulations, and hemorrhage, sepsis of the new-born, diphtheria, thrush, hematemesis, and melena neonatorum, diarrhea, constipation, etc. The subjects are briefly considered, and the condensation aimed at by the author makes the paper all the more valuable to the general practitioner, who cannot examine more voluminous works.

This review may be summarized by stating that, in the selection of writers and subjects, the editor and publishers have shown commendable judgment, and, as a result, have presented to the profession a work of rare value, which we are confident will be well received and appreciated.

Thomas Jefferson and the University of Virginia. By H. B. ADAMS, Ph. D. Volume No. 2.

This is one of a series of volumes issued by the United States Bureau of Education, giving the history of educational institutions. No. 1 was largely devoted to the history of the College of William and Mary, of Virginia, and the current, No. 2, is principally devoted to the scheme of Jefferson for the founding of the University of Virginia; and it certainly presents a pleasant picture of the Virginia statesman in his efforts for higher education in his own State. He was hardly behind the New England sentiment, which favored State aid for higher education, and local taxation for support of primary schools. For fifty years he struggled against the selfishness of the wealthy class

in behalf of the "holy cause of the university," and to this day Jefferson is the foremost figure of the promoters of educational interests in Virginia. During his diplomatic residence in France he made a study of European universities, and he caught the French spirit in the educational sphere quite as much as in the political.

It is remarkable that when France lost her territorial influence and control in the West, some of the leading spirits made earnest efforts to impress upon the United States, French thought and French educational methods through a Southern university. The story in the volume reviewed, of Chevalier Quesnay's project of a university under the patronage of Jefferson and other Virginia leaders, reads like a romance. He was the grandson of the famous court physician of Louis XV., and served for some time in our army of the revolution.

It was to be a French academy he would found, to be equipped with French professors. Richmond was to be its seat. Its cornerstone was laid June 24, 1786. Quesnay then returned to France to complete his plans for an intellectual and educational union between France and the United States. This was at a period when Rousseau and the Encyclopediasts dominated French thought, and there was great danger that they become potential influences in the Southern States. But that influence was checkmated in time by a current of "Scottish Presbyterianism proceeding from Princeton College."

Jefferson's bill of 1779 provided for the foundation of common schools for both male and female children, ten years in advance of the time when even Boston gave a place to female children in her public schools. In connection with his system was a system of township government and taxation, after the type of that of New England, whose power he felt in the hostility of New England to his own policy when at the head of our government. Referring to this concentrated power in townships, and to its energy at the time of the Embargo, Jefferson said he "felt the foundation of the government shaken under his (my) feet by the New England townships." Quesnay's plan did not mature, and it is very remarkable that, in 1794, the French faculty of the College of Geneva, Switzerland, proposed to Jefferson to transfer that college to Virginia. Jefferson favored it, and endeavored, unsuccessfully, to influence Washington to second the scheme; but the Virginians did not sustain Jefferson in this project. And it is well, for it was far better for American institutions to represent the American spirit, than to start under the auspices of French philosophers. Jefferson was, as is well known, an advanced liberal in religion, yet it is matter of interest to find that he favored placing the ethical education of children upon a theistic basis. He says: "The

proofs of the being of a God, the creator, preserver, and supreme ruler of the universe, the author of all the relations of morality, and of the laws and obligations, these, I infer, will be within the province of the professor of ethics." He even favored the establishment, in the immediate vicinage of the university, of theological classes by different sects, which he thought would create a spirit of toleration, "and make the general religion a religion of peace, reason, and morality." Here he anticipated, in large degree, the policy of several of our leading universities. It certainly is pleasing to see the intense democratic leader of American politics, who represented all the bitterness in controversy characteristic of the early period of the Republic, devoting his old age, as well as his early years, to the promoting that higher education which is a true glory of a commonwealth, and to see his early philosophic hardness—for such it was—softening as he advanced in years, until toleration and charity and social "sweetness and light" chastened and subdued all the harsher elements of his nature.

Much of the volume we have noticed treats of the influence and power of the University of Virginia, which the author of that paper regards the transcendent intellectual influence in the South.

It closes with a review of other Virginia colleges, their growth and their present character.

A continuation of this series, which shall embrace the higher educational history of the whole country, presented with equal intelligence and breadth, as appears in the volume before us, will be a valuable contribution to the literature of the country.

The Physiology of the Domestic Animals. A text-book for veterinary and medical students and practitioners. By ROBERT MEADE SMITH, A. M., M. D., Professor of Comparative Physiology in the University of Pennsylvania; Fellow of the College of Physicians and Academy of the Natural Sciences, Philadelphia; of the American Physiological Society; of the American Society of Naturalists, Associe etranger de la Société Francaise d'Hygiene, etc. With over 400 illustrations. 8vo, pp. 675. Philadelphia and London: F. A. Davis. 1889. Cloth, $6; sheep, $6.75 net.

It is not often that the medical profession has the opportunity of reading a new book upon a new subject, and doubtless English-speaking physicians will feel grateful to Prof. Smith for his admirable and pioneer work in a branch of medical science upon which a great amount of ignorance prevails. We have many times noted most peculiar, even ridiculous, notions concerning the anatomy and physiology of such animals as the horse, dog, and cat, and this among medical men. When, however, we reflect upon the limitations of city life in the study of the animal kingdom, and the lack of any reliable

literature upon the subject, it is not such a wonder that the farmer, with larger opportunities for observation and tradition to teach him, should surpass even the doctor in this line of knowledge.

Under the heading General Physiology, the author first considers cells, discussing, in turn, their anatomy, physics, and chemistry in a most complete and satisfactory manner. The importance which the author attaches to a comprehensive knowledge of cells, appears throughout the book. Beginning with the simplest forms of various physiological processes, he traces their development up through the higher grades of animal life until he has reached the most complex forms of the mammalian kingdom. This mode of discussing the subject is very valuable to the student, and is one we should like to see more frequently employed by authors.

The second division (Special Physiology) comprises the greater part of the book, and contains some chapters on the feeding and nutrition of animals, and the physiology of movement, which are especially good.

The last portion of the work is devoted to the reproductive functions, and contains much valuable information upon a portion of animal physiology concerning which many are ignorant.

The cuts, some of them colored, are numerous and good. They are taken from standard works upon the same or allied subjects, credit being given in each instance. The book is a most valuable one in every way, and will be consulted largely by veterinary and medical students and practitioners. J. P.

Book on the Physician Himself and Things that Concern His Reputation and Success. By Dr. W. CATHELL, M. D., Baltimore, Md. The ninth edition, revised and enlarged. 8vo, cloth; pp. 298. Philadelphia and London: F. A. Davis, publisher. 1889.

We do not believe the profession needs a book like this, and, therefore, regret its having been published. That it has reached a ninth edition, and thus shown that it is successful from a business standpoint, may excuse but does not justify the author. A physician who thinks and lives properly, does not need this book; one who does not so live and think, will not do so because of it. Much of the advice is very good, but good advice is not more apt to make a physician either good or great than one swallow is to make a summer. The book is really a code of ethics gone mad. Every situation the author can think of, or hear about, is detailed, with the proper line of conduct suggested. We submit that the best possible book written in this way will fail, as the enormous mass of detail will obscure the

real end desired. The work appears in a pleasant shape; is finely printed on good paper, and is a credit to the publisher. A good index completes it. F. H. P.

A Laboratory Guide in Urinalysis and Toxicology. By R. A. WITTHAUS, A. M., M. D., Professor of Chemistry and Physics in the Medical Department, University of the City of New York; Professor of Chemistry and Toxicology in the Medical Department, University of Vermont, etc., etc. Second edition, cloth, pp. iv., 75. New York: William Wood & Company.

This little guide has reached a second edition, showing that it is appreciated by the working student. Its peculiar arrangement adds to its usefulness. The descriptions are clear and easily followed, and the blank leaves, for notes and the illustrations, all increase its practical value. We know of no better work of the kind, and advise students to follow it in their laboratory studies of the subjects it presents.

Wood's Medical and Surgical Monographs, Vol. III., No. 2. August, 1889. Contents: The Treatment of Syphilis at the Present Time. By Dr. Maximilian Von Zeissl. The Treatment of Inebriety in the Higher and Educated Classes. By James Stewart, B. A. Manual of Hypodermic Medication. By Drs. Bourneville and Bricon.

The titles in this eighth number of these valuable publications are upon subjects of importance. That they are well considered, needs no further comment than to point to the names of the authors.

It behooves every physician to make himself familiar with the latest literature upon the subject of syphilis, for it is a disease that influences and modifies almost every other malady, and is so subtle withal that the closest scrutiny is sometimes inadequate to detect it.

Hypodermic medication is constantly coming more and more to play an important part in the therapeutic management of disease. Hence we are glad to see specific literature put forth upon the subject. Much ignorance, fear, and even carelessness prevails in this field, and we are hopeful that this book will be widely read, for it cannot fail to remove many of those stumbling-blocks to progress.

BOOKS AND PAMPHLETS RECEIVED.

Transactions American Surgical Association for 1889.

Essentials of Pathology and Morbid Anatomy. By C. E. Armand Semple. With forty-six illustrations. Philadelphia: W. B. Saunders, 1889.

On Disordered Digestion and Dyspepsia. Frank Woodbury, A. M., M. D. George S. Davis, Detroit, Mich., 1889.

Prolapse of the Womb, with Especial Reference to the [so-called] Hypertrophic Elongation of the Supra-Vaginal Portion of the Cervix, with report of a case. By Lewis H. Adler, Jr., M. D. Reprint from the *Medical News*, August 3, 1889.

Electrical Distribution of Heat, Light and Power. By Harold P. Brown, Electrical Engineer. With partial list of deaths from electrical lighting apparatus, and an address by John Murray Mitchell, Counselor-at-Law on Legislative Control of Dangerous Electrical Currents. New York: Press of J. W. Pratt & Son, 1889.

Cornell University, College of Agriculture. Bulletin of the Agricultural Experiment Station, Horticultural Department. VII. July, 1889. On the Influences of Certain Conditions upon the Sprouting of Seeds.

Paring and Suture Clamp Forceps. By Edmond V. Joye, M. D., Atlanta, Ga. Reprint from the New York *Medical Journal* for July 13, 1889.

Value and Proper Use of Arsenic in Skin Diseases. By George H. Rohé, M. D., Baltimore, Md. Reprint from the Virginia *Medical Monthly*, January, 1888.

The Electrolytic Decomposition of Organic Tissues. By George H. Rohé, M. D. Reprint from the New York *Medical Journal* for December 1, 1888.

On the Diagnosis of Pregnancy in the Early Months. By Llewellyn Eliot, M. D., Washington, D. C. Reprint from the *Journal of the American Medical Association*, June 22, 1889. Chicago.

Expression in the Treatment of Trachoma. By A. E. Prince, M. D., Jacksonville, Ill. Reprint.

Pelvic and Abdominal Drainage. By David Prince, M. D., Jacksonville, Ill. Reprint.

Four cases of Gunshot Wound of the Abdomen Treated by Laparatomy. With remarks. By David Barrow, M. D., Lexington, Ky. Reprint from the *Journal of the American Medical Association*, June 15, 1889. Chicago.

President's Message and Recommendation, and annual address before the Texas State Medical Association at San Antonio, April, 1889, by J. F. Y. Paine, M. D., Galveston, Texas. Reprint from Transactions T. S. M. A.

Twenty-second Annual Report of the Health Department of the Board of Public Affairs to the Honorable Common Council of the City of Cincinnati, for the year ending December 31, 1881. Byron Stanton, M. D., Health Officer. Cincinnati, 1889.

Admission of Utah. Report of the Committee on Territories on the Admission of Utah as a State, to the House of Representatives, second session, Fiftieth Congress. Washington: Government Printing Office, 1889.

Report for the Year 1888–89, presented by the Board of Managers of the Observatory of Yale University to the President and Fellows.

Merck's Bulletin, June, 1889, July, 1889.

The Annual Report of the Department for the Insane of the Pennsylvania Hospital. For the year ending fourth month, 22d, 1889. Philadelphia: Press of Ferris Bros.

Annual Report of Morse Dispensary of Cooper Medical College for 1888. San Francisco: W. A. Woodard & Co., Printers, 1889.

Report of resident physician of Brigham Hall, a hospital for the insane, for the year 1888. Canandaigua, N. Y., 1889.

Annual announcement of the Buffalo College of Pharmacy, Department of Pharmacy, University of Buffalo. For the session of 1889–90.

Boston University School of Medicine, seventeenth annual announcement and catalogue. July, 1889.

The Central University of Kentucky. Medical Department. Hospital College of Medicine, Louisville, Kentucky. Circular for session 1890.

The Central University of Kentucky. Dental Department. Louisville College of Dentistry, session IV., 1890.

Announcement Gross Medical College, of Denver. Medical Department of the Rocky Mountain University. Session 1889–90.

Cooper Medical College, San Francisco. Annual announcement. Session of 1889.

Seventeenth annual announcement of the Physio-Medical College of Indiana. Indianapolis. Session of 1889–90.

College of Physicians and Surgeons in the City of New York. Medical Department of Columbia College. Annual catalogue and announcement. New York, June, 1889.

The Medico-Chirurgical College of Philadelphia. Announcement for sessions of 1889–90.

Thirteenth annual announcement and catalogue of the Hahnemann Medical College and Hospital of Chicago, Ill., 1889–90.

State Board of Health Bulletin, Nashville, Tenn., July 15, 1889.

Abstract of Proceedings of the Michigan State Board of Health, April, 1889.

Monthly Bulletin of the New York State Board of Health, June, 1889.

Health in Michigan, July, 1889.

Report of Deaths and Contagious Diseases for the month of July, 1889. Newport, R. I.

Weekly Abstract of Sanitary Reports. Vol. IV. Nos. 31, 32, 33, 34.

MESSRS. JOHN WYETH & BRO.'s advertisement, in this issue, is worthy of the careful attention of our patrons. They give a complete list of their Compressed Hypodermic Tablets—embracing in all some seventy-one different agents and combinations—the most complete we have yet seen. In it will be found almost every medicament used in hypodermic practice. This house was the first to devise this most valuable and convenient form of subcutaneous medication. Its well-known reputation is a sufficient guarantee for all the claims they make for these as well as for all their preparations so widely and favorably known.

BROMIDIA.—I have used the Bromidia (Battle), and the results obtained have been really excellent. It certainly combines all the advantages of other preparations of this nature, while, at the same time, it possesses none of their disadvantages. The fact that it produces no unpleasant sensation on awaking renders it specially valuable.

DR. LUD. MARC.

ST. NAZAIRE-SUR-LOIRE, FRANCE.

Literary and Other Notes.

THE *Boston Advertiser* issued August 29th, Dr. Oliver Wendell Holmes' birthday, a special paper, containing a special article on the "Autocrat" by Frank B. Sanford, his personal friend, letters from all his surviving college classmates, Harvard, 1829, and other features which make it the feature of Boston journalism this Summer.

F. A. DAVIS, of Philadelphia, has in press a new work on the "Practical Applications of Electricity in Medicine and Surgery, by Dr. C. A. Liebig, Jr., of Johns Hopkins University, and Prof. George H. Rohé, of the College of Physicians and Surgeons, of Baltimore.

The part on Physical Electricity, written by Dr. Liebig, one of the recognized authorities on the science in the United States, will treat fully such topics of interest as Storage Batteries, Dynamos, the Electric Light and the Principles and Practice of Electrical Measurement in their Relations to Medical Practice.

Prof. Rohé, who writes on Electro-Therapeutics, discusses at length the recent developments of electricity in the treatment of stricture, enlarged prostate, uterine fibroids, pelvic cellulitis, and other diseases of the male and female genito-urinary organs.

The applications of electricity in dermatology, as well as in the diseases of the nervous system, are also fully considered.

The work will be fully illustrated by engravings and original diagrams.

THERE is no other exhibit of the class in the United States section to rival that of William R. Warner & Co. at the Paris Exposition. From the globe-advertising merchant comes an exhibit which the native pharmaciens can look at with both admiration and wonderment. The display is enough to make any Frenchman curious, and their arrangement such as to be above deprecatory criticism; and those Frenchmen there could not be a people with better taste for the proper and harmonious exhibition of products. A glance through their own magnificent section of pharmacy will verify this. Readers would find superfluous a description in detail of the Messrs. Warner's essentially fine installation covering all their soluble sugar-coated pills, salts, &c. Suffice it to remark that at the Paris Universelle their exhibit is thoroughly representative, comprises all the makers' fabrications, and is decidedly an honor to the concern.—*Pharmaceutical Record.*

Regimental Hospital 49th Regiment N. Y. Volunteers, Camp Griffin, Va., November, 1861, to March, 1862. Assistant-Surgeon W. W. Potter, in Charge. From a Sketch made by a soldier, December, 1861, and presented to the Author.—W. W. P.

Buffalo Medical and Surgical Journal

Vol. XXIX. OCTOBER, 1889. No. 3.

Original Communications.

REMINISCENCES OF FIELD-HOSPITAL SERVICE WITH THE ARMY OF THE POTOMAC.

By WILLIAM WARREN POTTER, M. D.,

Brevet Lieutenant-Colonel United States Volunteers; Surgeon in Charge First Division Field Hospital, Second Army Corps; Surgeon Fifty-seventh Regiment, New York Volunteers; Assistant Surgeon Forty-ninth Regiment, New York Volunteers; Recorder Second Division Hospital in Sixth Army Corps, etc., etc.

It is the purpose of the writer in these pages, kindly allotted to the consideration of this interesting phase of army life, to give a succinct account of the field-hospital system of the Army of the Potomac, based upon his experiences of three years' service as a medical officer in that army. Minute detail cannot, of course, be entered into within the necessarily narrow limits of a magazine article,—only distinctive features grouped and portrayed in outline.

If it were necessary to seek a ráison d'être for the appearance of such an article at this time, when so much is being written about the war and its conduct, it could be readily found in the fact that, so far, only officers of the line have figured in conspicuous prominence, as having achieved renown in the military service. It is an undeniable fact that the medical department of the army was very near the hearts of the millions of patriotic people who, while compelled to remain at home, contributed, with lavish hands, their means and substance toward the successful prosecution of the war. It is presumed that many of these will be interested to know something more of the manner of caring for the sick and wounded, in active service and on the field, that can be gleaned from ordinary or even official sources.

The writer served in the various capacities of Assistant Surgeon, and Surgeon on duty with the troops, and as Recorder of the Second Division Hospital, in the Sixth Army Corps; also, as assistant to Chief Operator, as Chief Operator, and as Surgeon-in-Charge of a division field hospital in the Second Army Corps, holding the latter

place for more than a year. This statement is made that his opportunities for knowledge as to the working of the system may be understood, and the value of his judgment thereupon properly estimated.

An army in the field is, at once, confronted with the difficult problem of properly caring for its sick and wounded—a question second only in importance to the ever-present one of feeding it. The difficulties increase in a manifold degree if, as was chiefly the case with the Army of the Potomac, the field of operations lies in an enemy's country. Military reasons demand that disabled soldiers shall not impede the mobility of the columns; humane reasons insist, with equally cogent force, that they shall receive prompt and efficient care, and these with due regard to economy of life and limb. It is affirmed, without the hazard of successful challenge, that both these grave considerations were met during the late civil war, by the medical staff of the army, with a skill and patriotic devotion to duty, alike worthy the profession and the cause.

In the old army, *i. e.*, the army as it existed prior to the war of 1861–5, the Regimental Hospital was the only field-hospital recognized or provided for in the "army regulations." During the Autumn of 1861, and the Winter of 1862, this plan was still adhered to. The sick, who could not be properly treated in quarters, were, by order of the Surgeon, sent to the Regimental Hospital, which was conveniently located near, and, indeed, formed part of the camp. To provide therefor, each regiment was allowed three hospital tents, one Sibley tent, and one "A" tent. The hospital tents, each measuring 14x16 feet area measure, were usually pitched one behind another, so that they formed three communicating apartments. The other tents were used by the attendants, and also for kitchen purposes. When the capacity of this hospital became overtaxed, the surplus was sent to General Hospital in Washington. Sometimes it was expedient as well as convenient to locate the regimental hospitals in or near dwelling-houses that had been vacated by their owners or occupants, and abandoned to the tender consideration of the Union forces. Our illustration shows an example of such utilization of a deserted house for hospital conveniences by the 49th Regiment, N. Y. Volunteers. The hospital here shown was situate about half a mile in rear of the troops, on a road leading through Camp Griffin to Chain Bridge. This hospital was in operation on the spot depicted from the Autumn of 1861 to March 8, 1862. It is from an India ink sketch, drawn and presented to me by a member of Co. B, whose name I have forgotten.

In the Spring of 1862, when the army was moved to the Peninsula, and it became necessary, in order to properly mobilize it for the field,

Field Hospital at Savage's Station, Va., June, 1862, showing the reception and first care of the wounded from the battles of Ellerson's and Gaines's Mills. From a photograph in possession of the author since 1862.—W. W. P.

to reduce the baggage and camp equipage to the minimum, each regiment was allowed but one hospital tent. Depot hospitals were, however, on our arrival at the new line of operations, established at the army base, for the reception of the sick in excess of the regimental accommodations. During the siege of Yorktown, conveniences of a like character were provided at Ship Point and at Old Point Comfort. While the army was before Richmond in May and June, 1862, large field-hospitals were established at Savage's Station and at White House; and their capacity was taxed to the uttermost, in the care of the sick and wounded during that portion of the Peninsular campaign.

At Savage's Station were collected the wounded from the battles of Ellerson's and Gaines's Mills, numbering over 2,000 men.[1] In the movement to Harrison's Landing it was found impracticable to remove this hospital, and it was, therefore, left to fall into the enemy's hands. It was liberally supplied with surgeons, nurses, stores, and rations, and everything done for the comfort of its inmates which the exigencies of the service permitted. On Sunday, June 29th, at or about five o'clock P. M., the Confederates, under General Magruder, appeared in force in the vicinity of this hospital, approaching both along the railroad and the Williamsburg road. A vigorous attack was made upon a portion of the second corps, which was drawn up in line on the open field south of the hospital, facing west. A formidable railroad battery opened fire at once, the first shell exploding directly over the hospital, which was in direct range of the fire. Other shots quickly followed, with the effect of killing one man and wounding others in the hospital, destroying some of the tents, and causing much dismay among the already suffering inmates. The hospital also contained a number of Confederate wounded, among whom was Colonel Lamar, of the Eighth Georgia Regiment. A flag of truce was immediately sent out by the surgeon in charge, notifying the commanding officer of the Confederate force which made the attack on the hospital, that it was suffering from the fire of his batteries, and that some of his own men were likely to be among the victims. The following reply was returned:

> The hospital will not be fired into unless undue advantage is taken of its flag.
>
> (Signed) A. CONRAD,
> *A. A. Gen'l, Confed. Forces.*

The division of General William F. (Baldy) Smith, in which I was then serving, had moved on the road toward White Oak Swamp a

1. For other illustrations of this hospital, see the *Century Magazine* for July, 1885, pp. 459-461. From the various battle-fields during the "seven days" fighting, the number in this hospital was increased to about 3,000.—W. W. P.

short time previous to the commencement of the engagement, which was known as the Battle of Savage's Station. But as soon as it was ascertained that the enemy had appeared in force and was making determined effort, General Smith countermarched his division and, on reaching the field, threw it in on the left of Sumner's Corps, where the fighting was spirited and considerable loss was sustained, chiefly by the Vermont Brigade under General Brooks. Night soon came on, however, and quickly put an end to the action, excepting some desultory firing that was continued until a later hour. Smith's wounded were collected at a small house and shop about a mile down the Williamsburg road, toward White Oak Swamp, where there was a little opening of a few acres in the woods.

About nine o'clock P. M., while I was busily engaged in caring for these wounded, Dr. J. B. Brown, Medical Director of the Sixth Corps, called me aside, stating that he had orders from General Franklin to leave the wounded where they were, with medical officers and nurses, and that I had been selected to remain behind with them. He stated, furthermore, that all our forces would pass by before midnight, moving toward White Oak Swamp, and that I had better make such arrangements, at once, as would enable me to comply with the order; whereupon my horses were despatched with the troops to avoid capture, and hastily collecting such hospital supplies as were available, I once more addressed myself to the care of the wounded. By midnight, or a little after, the retreating columns had all passed by on their way to White Oak Swamp, where the conflict was to be renewed on the morrow, with all the fierceness of its deadly energy.

The consciousness of being between the lines with the certainty of falling into the enemy's hands in the morning, together with the pressing duties of the hour, were sufficient to counteract the fatigues that otherwise would have speedily brought that much-needed repose, which I vainly sought about two o'clock in the morning. Soon after dawn the Rebel skirmishers appeared slowly advancing through the woods, coming to a halt on a line with the hospital. Some officers immediately rode up who were informed of the condition of affairs, but before the conversation was ended, General "Stonewall" Jackson himself appeared upon the scene. Upon application he ordered a guard, consisting of a sergeant and twelve men, for the purpose of protecting the hospital during the passing of his columns; and, after ascertaining the facts as to our authority for being there, gave the order for his line to advance. All day long the steady tramp of the foe made unwelcome music to our ears. They were a cheerful lot, flushed with what they delusively supposed was victory of a decisive nature; their uniforms (?)

were tattered, but their muskets were bright ; and their cannon, chiefly marked " U. S.", were, for the most part, drawn with rope traces.

Some time during the forenoon the head of General D. H. Hill's division halted in front of the hospital, and from him a pass was obtained which authorized me to visit the battle-field of the evening before, for the purpose of ascertaining if any of the wounded had been overlooked. This I did in the afternoon accompanied by one of the guards, and met on the field a Confederate ambulance squad in charge of a sergeant, already engaged in the same duty. A few wounded were found in the woods on the left, and I also counted about seventy Union dead, most of which lay in the opening through which the Williamsburg road passes out into the open field. [1]

On Tuesday, July 1st, the wounded left in my care were moved up to the main hospital at Savage's Station, and distributed to its wards. The guns of Malvern Hill were distinctly heard during the entire afternoon, and the cheering news of the enemy's defeat soon reached our ears. Two weeks later a train-load of wounded, on flat cars, was moved into Richmond, and I accompanied them. We arrived late in the evening and, owing to some mismanagement in regard to the arrival of the ambulances, were compelled to remain at the station all night. Next morning the wounded were distributed to the buildings then used for hospital purposes, and the medical officers were sent to Libby prison, then also using as a hospital. I was directed to report to the commandant, Lieutenant Turner, who ordered a search of my person, ostensibly to ascertain if I had in possession any counterfeit Confederate money. Not finding any, he contented himself with seizing my pocket case of surgical instruments, which he regarded as contrabrand of war, casting a longing eye upon some gold coin which I happened fortunately to have, but which he dare not take. I was assigned to the care of Union wounded in a large tobacco warehouse on Cary street, about four blocks east of Libby, and continued upon that duty until my release, which happily occurred in a very few days.

Richmond was, at this time, one vast hospital. Every building which could possibly be made to serve the purpose was filled with wounded, either Union or Confederate. These buildings were, for the most part, tobacco warehouses, and were devoid of any of the proper conveniences pertaining to hospital service. The Union wounded lay upon bare floors with, possibly in some instances, a blanket underneath and a knapsack for a pillow. The air was hot and stifling, saturated with the sickening odor of stale tobacco, and alto-

1. See plan of the battle of Savage's Station in the *Century* for July, 1885, p. 460 —W. W. P.

gether it was a most uncomfortable state of affairs. However, I saw no disposition to treat any of our wounded with unkindness, and presumed the authorities were doing the best they could with the resources at their command.

One day, not long after entering upon duty at this hospital, acting upon the suggestion of Assistant Surgeon J. Sim Smith, U.S.A., a fellow prisoner,[1] I obtained a pass from Lieutenant Turner to visit the officers' prison on Eighteenth street, where some of my acquaintances were incarcerated whom I was desirous of seeing. This prison was also a large tobacco warehouse, and contained several hundred officers, among whom were Generals McCall and Reynolds, the former captured at the battle of Glendale, June 30th, and the latter at Gaines's Mill, June 27th. At the solicitation of my friends, Captain McLean, 5th U. S. Cavalry, and Captain Theodore B. Hamilton, 33d N. Y. Volunteers, I remained all night as their guest; and on my return to Libby next morning, to my surprise I found a train of ambulances loaded and ready to start for Aiken's Landing with wounded for exchange. I immediately applied to Dr. Cullen,[2] Longstreet's medical director, who had charge of the matter, for permission to accompany the train. This he readily granted and, mounting the nearest ambulance, I rode with the driver to Aiken's Landing on the James River, a distance of about ten miles from Richmond. Here we were delivered to the hospital steamer "Louisiana," Lieutenant-Colonel Sweitzer, of General McClellan's staff, truce officer in charge, and reached Harrison's Landing next morning in safety; having, however, anchored in the river near the point of embarkation for the night, to avoid the danger of fire from the enemy's shore batteries, as our flag would not protect us after dark. This was the first transaction of exchange under the cartel, just then concluded between the commissioners, Major-General John A. Dix for the United States, and Colonel Robert Ould for the Confederate authorities.

General McClellan boarded the "Louisiana" by steam launch soon after we anchored off Harrison's bar, and spent nearly an hour in close conversation with Major Clitz and Captain Chambless, two regular army officers wounded at Gaines's Mill, and who were lying upon cots in the saloon of the vessel. General J. E. B. Steuart, the famous Confederate trooper, paid several visits to these officers while they were quartered in Libby, sitting between their cots which were contiguous to each other, and passing a few moments of apparently pleasant conversation with them at each visit. The medical officers

1. Since deceased.—W. W. P.

2. I had met Dr. Cullen at Williamsburg in May, when he was sent into our lines by Longstreet to look after his wounded.—W. W. P.

and nurses who were fit for duty here rejoined their respective commands, and the "Louisiana" proceeded on her way with the wounded to northern hospitals.

About this time an important change took place in the administrative head of the medical department of the Army of the Potomac. Surgeon Charles S. Tripler, U. S. A., a most able and accomplished officer, who, from the accession of McClellan, had performed the duties of medical director, was nominated by the President to be medical inspector-general of the United States Army; and Surgeon Jonathan Letterman, U. S. A., was appointed to the vacancy occasioned by this promotion. Dr. Tripler's experience had been wide, and his training of such a nature as well suited him to the responsibilities of the office he had so long and admirably filled; but the difficulties to overcome had been many and various, and while the campaign just ended had taxed his energy and capacity to their uttermost, it had yet left as a heritage other and newer experiences, as well as a trained medical staff,—resources of inestimable value to be drawn upon by his successor.

These experiences had demonstrated the inadequacy of the regimental hospital system, as well as the defectiveness of the brigade hospitals which were tried for a time, to meet the necessities of military operations conducted on so large a scale as now, where the marches were so long and arduous, and the fighting so terrible and bloody. The new medical director addressed himself almost at once to the solution of the difficult problems of providing a comprehensive field hospital system, which should be adequate to the great exigencies of the military operations of so vast an army, and a disciplined ambulance service as well, which should be competent to promptly and efficiently transport the sick and wounded, both on the march and in battle. Orders were promulgated on August 24, 1862, on the subject of the ambulance corps, and on October 30, 1862, in relation to field hospitals; and so complete were the plans set forth in these orders in all their details, that they remained in force without material change, until the end of the war. Moreover, their provisions were subsequently adopted by the Surgeon-General, and made the uniform practice throughout all the armies in the field.

Briefly summarized, these plans were as follows: Each division hospital was to organize with a staff, consisting of one surgeon in charge; one assistant surgeon as recorder; one assistant surgeon to provide food and shelter; three medical officers to perform operations, each operator to have three assistants; and additional medical officers, according to necessity, to attend the wards, dress wounds, etc·

There were also one chief hospital steward, one chief cook, one ward master, and a few nurses attached to the permanent organization. Extra hospital stewards, cooks, nurses, and other attendants were to be detailed for duty as occasion required. On the march, or in camp, the extra medical officers, hospital stewards, cooks, nurses, and attendants remained with their respective regiments; only the permanent staff was constantly on duty at the hospitals, or accompanied the ambulance trains.

The ambulances were organized into division trains with a first lieutenant in command, and second lieutenants from each brigade as assistants; the entire trains of each corps being commanded by a captain attached to the corps commander's staff. A sufficient number of enlisted men were detailed from the ranks to properly man the trains of each division, in the proportion of two men and a driver to each ambulance, and a mounted sergeant from each regiment.[1] A medicine wagon, properly supplied with stimulants, dressings, and medicines for each brigade, also formed a part of the division field-hospital equipment. Each division train was provided with a saddler, a blacksmith, and a traveling forge, to keep the train in order; and each ambulance was supplied with stretchers, buckets, kettles, lanterns, beef stock, bed-sacks, and kitchen utensils.

This is but a faint setting forth of the great labor and multiform details which such a comprehensive plan involved, and, whereas in July the young medical director of the Army of the Potomac came into office finding a medical department somewhat disorganized and chaotic, by the end of October he had gathered around him an amply equipped and thoroughly drilled hospital staff, as well as a trained, organized, and efficient ambulance corps, adequate to meet the pressing necessities of the great army in its self-imposed Herculean labor.

As soon as a battle became imminent, the medical director of the corps ordered the establishment of a hospital for each division of the corps, in positions selected by himself convenient to the troops, yet sufficiently out of range of fire to insure comparative safety. Houses were, when available, chosen for these hospital sites, the adjacent grounds usually affording conveniences for pitching the tents, obtaining water, and other supplies for the comfort of the wounded. The wagons were ordered up at once, the hospital staff repaired to the site selected, and, under the superintendence of the surgeon in charge, prepared the hospital for the reception of the wounded. Tents were pitched; straw, fuel, water, blankets, etc., provided; hospital flag conspicuously hoisted; markers displayed at suitable points to indicate

1. These men wore chevrons, half-chevrons, and cap-bands of green, as distinctive badges. — W. W. P.

the route to the hospital; kitchen organized, and everything made ready for active usefulness. On the arrival of the wounded, the operating surgeons and their assistants took their places at the operating-tables in the rear of the medicine wagons, over which a fly had been spread, and where instruments, dressings, anesthetics, and stimulants were at hand.

One medical officer, usually the junior assistant surgeon, remained with each regiment, together with a nurse or two and the hospital orderly, which latter carried a field companion supplied with dressings and other necessaries; and these were ordered to establish themselves at temporary depots, at such distance in the rear of each regiment as would ensure safety to the wounded. Sometimes these temporary depots were consolidated into one or two for each brigade; especially was this plan considered more feasible when regiments were small. At these advance depots, the ambulances received the wounded for conveyance to division hospital, and, as fast as they were loaded and driven away, their places were supplied with others from the ambulance reserve, still farther in the rear. On the arrival of the ambulances at the hospital, the recorder made an entry of each case in a book provided for that purpose, stating name, rank, company, and regiment of the soldier, and the nature of the wound, together with any particulars of value to note. If an operation appeared to be required, the case was sent at once to the operating staff,—otherwise to the wards, and given in charge of a dresser. This record was further perfected to show the treatment, operation (if any), and the result or disposition of the case, daily reports therefrom being made to the medical director of the corps, and by him sent, with those of the other divisions, to the medical director of the army. And so the work went on in its busy round, until the wounded were all brought off the field, operations made, wounds dressed, patients fed, reports made up and sent in, and the wounded finally shipped to the depot hospitals at the army base. So complete was the working of this system, that, on several occasions after the severest battles, I have seen more than a thousand wounded cared for in one of these hospitals, the urgent operations made, and all the first attention rendered, within a few hours after the arrival of the first ambulance load.

These hospitals were subjected to a rigid system of inspection, both during action and at other times, not only by the medical inspectors of the corps, but also by medical inspectors from the headquarters of the army; so that it was almost impossible for affairs to go very wrong in their conduct. If, perchance, evils crept in, or inefficient officers obtained responsible places, they were of certain detection and swift

remedy. The ambulance trains were also subjected to frequent and thorough inspections; the men were drilled and instructed in their duties, and everything pertaining to this important service constantly maintained at the highest possible standard of efficiency.

On the march, each division ambulance train followed immediately in the rear of the troops to which it belonged, and was accompanied by the permanent staff of the hospital, viz.: the surgeon-in-charge, the executive officer, and the recorder. When a soldier was taken sick on the march, one of his regimental medical officers gave him an ambulance pass, which entitled him to make his way slowly along, or rest by the wayside until the train came up. One of the medical officers accompanying it examined the soldier and his pass, and, if proper, gave orders for his admission to an ambulance. On reaching the camp for the night, the sick and foot-sore thus gathered up were either returned to their regiments or retained in hospital, according to the nature and severity of the cases.

At the first battle of Fredericksburg, December 13th, 1862, the hospital of the Second Division, Sixth Army Corps, where I served as recorder, was located at the Bernard mansion,[1] a large stone house situated near the south bank of the Rappahannock river, about half a mile to the left of Franklin's Crossing. The owner, a haughty Virginian of the old school, had decamped with the Confederate forces on our approach, and so hasty had been the departure that the partly filled glasses and uncorked bottles of half-drunk wine, still standing on the dining-table and open side-board, attested to the convivial nature of his last night at home. It was understood at the time that several Confederate officers, including some of high rank, were partakers of Bernard's hospitality until a late hour that night, but, warned of the approach of the Union columns, host and guests hastily departed together, leaving behind them the tell-tale evidences of the night's hilarity. The house was comfortably, even luxuriously, furnished, and several fine pictures, together with other articles of taste and refinement, gave evidence of the wealth and culture of the late occupants. The next day, Bernard returned, but his behavior was so insolent that he was placed under guard, and subsequently sent to Washington, where he was given quarters in the old Capitol Prison.

On the lawn in front of the house, where the tall trees lifted their stately forms majestically towards the heavens, were seen, during a temporary lull in the battle, a group of generals with their attendant staff-officers and orderlies. Conspicuous among the number was a young brigadier-general of cavalry, the gallant George D. Bayard. While conversing with Generals Franklin, Smith, and others, a solid shot, ricochetting

1. This house was subsequently burned, and an accurate illustration of the ruins, which I visited June, 1863, just before the Gettysburg campaign commenced, may be found in *The Century*, August, 1886, p. 637.

across the field, struck him down, and he was brought into the hospital with a mortal wound, from the effects of which he expired twenty-four hours later. He was to have been married in five days more, it was said, to one of Philadelphia's fairest daughters. When it was finally decided to withdraw to the north bank of the river, the wounded of the Sixth Corps were removed to a temporary hospital near Falmouth. As soon as cars could be obtained, they were shipped to Acquia Creek, and thence by steamers to Washington. I was selected to accompany those from the Second Division, and reached Acquia Creek with them in charge about eight o'clock in the evening. Two steamers lying at anchor in the harbor were ordered to the wharf, and the transshipment to them was accomplished by three o'clock A. M. Washington was reached at seven in the morning, but it was not until three in the afternoon that the last of the wounded were loaded into ambulances, and on their way to the General Hospital. I had eaten nothing up to this time since leaving Falmouth, nearly twenty-four hours before, but the wounded were served with hot coffee and sandwiches at the Sixth-street wharf by the Sanitary Commission agents.

When I reached the camp of the Sixth Corps, near White Oak Church, on my return from Washington, I found awaiting me a pleasant surprise in the nature of a letter from Surgeon-General S. Oakley Vander Poel, S. N. Y., promoting me to be surgeon of the 57th Regiment N. Y. Volunteers, in the First Division of the Second Army Corps.

My service with the 49th Regiment and the Sixth Corps terminated upon the issuance of the following order:

HEADQUARTERS LEFT GRAND DIVISION,
CAMP NEAR WHITE OAK CHURCH, VA.

SPECIAL ORDER, No. 35.

December 27, 1862.

. . . . . .

5. The following named officers, having tendered their resignation, are honorably discharged from the Military Service of the United States.

Assistant Surgeon William W. Potter, 49th N. Y. Vols., to enable him to accept a commission as surgeon of the 57th N. Y. Vols.

. . . . . .

By Command of MAJOR-GENERAL FRANKLIN.

(Signed,) M. T. McMAHON,
Major and A. A. A. General.

(*To be concluded in November number.*)

THE IMPORTANCE OF THE MICROSCOPE IN THE DIAGNOSIS OF DISEASE.[1]

By E. W. MULLIGAN, M. D., Rochester, N. Y.

I PRESUME that you will all agree with me when I say that to make a correct diagnosis is the most difficult part of our work. A diagnosis once made, the treatment is comparatively easy. It is when we are not sure of our diagnosis that we find the treatment so troublesome. In very many cases the microscope is our best consultant. You must have a first-class instrument with at least two objectives—much better to have three or four. And as good light is of so much importance, you should have an Abbé condenser, or a Bausch and Lomb's sub-stage condenser. It requires much time and practice to become expert with the microscope; but it is time well spent. In the examination of urine it is called into use every day by the busy practitioner. How is it possible to make an exact diagnosis of renal or vesical disease without the aid of the microscope?

Take a case of chronic interstitial nephritis in its incipient stage, when you have no symptom or sign that points directly to the kidneys; simply, indefinitely, out of health or suffering with dyspepsia. You may examine the urine for albumen and find none; or, if you do find it, it is but a trace. In such a case the microscope is our best friend and safest consultant, and, if we understand well how to interrogate it, it will certainly make out the diagnosis for us. But, never make a positive diagnosis on a single examination. You may find a small hyaline cast or two, and yet no disease of the kidneys be present. You may not find casts at all, and yet disease exist. It is necessary to examine the sediment of the whole twenty-four hours' urine, and examine several times in many cases before pronouncing your verdict. This is a very important point. I have known very great injustice to be done to a patient by the physician making a diagnosis of Bright's disease after finding one or two small hyaline casts and a trace of albumen. It is a very serious matter to give a grave prognosis to your patient, or to your patient's family, even when you tell them the exact truth. But to give a grave prognosis after finding a little albumen present at a single examination, is a great mistake. The careful use of the microscope will eventually clear up all doubts in our minds regarding almost any case of renal disease. If you find a trace of albumen in a urine, how are you to know whether the albumen comes from a diseased kidney, or from the bladder, *or not* from either. If you do not call upon your microscope, you will certainly be at sea.

1. Read before the Rochester Pathological Society, June 20, 1889.

If your patient be a female, it will be necessary to exclude the possibility of leucorrheal discharge. The finding of large pavement epithelium, together with pus cells, is pretty sure evidence of this condition being present, but not so positive as catheterizing your patient and examining the specimen thus taken.

Many cases of gravel are passed by, by the physician, without a thorough understanding of the case. It is not necessary to have large calculi passing through the ureter in order to produce severe paroxysms of pain. The passage of uric acid in large quantities produces the "uric acid storm." The examination of the patient's urine from day to day, and finding large quantities of these crystals, will make the diagnosis positive. I should like to add more concerning the examination of urine, but this is so large a subject that we will not have time in this short paper to more than mention the few points given.

Regarding tuberculosis, we affirm (with excellent authority) that it is curable if discovered and properly cared for in time. "We know, now, that tubercle, wherever it is found in the bones, in the glands, in the testicle, in serous membranes, as well as in the lungs, may be transformed into fibrous tubercle, and this tuberculosis localized elsewhere, having become sclerous, gives no more sign of its presence during the existence of the patient." "Grancher and Renault show that whatever be its form, tubercle always contains a fibrous zone in miniature, which, if the development of the tubercle is slow or arrested, may increase and lead to a natural cure." In the beginning stage of phthisis, a certainty in diagnosis can only be acquired by the micro-chemical method. To stain the bacilli of tuberculosis, I have found the old method of Ehrlich to be the most satisfactory. Of course, this is slow and requires about twenty-four hours to complete the examination. An easier and more rapid method is that of Ziehl. By this method we can ascertain if tubercle bacilli be present in a specimen in about fifteen minutes. I received the formula from Dr. Roseboom, who brought it with him from Vienna. It is—

Carbolic acid,	5.00
Alcohol,	10.00
Distilled water,	100.00
Fuchsin,	1.00

To decolorize, use twenty-five per cent. sulphuric acid.

Local tuberculosis may become infectious unless we remove the source from which the bacilli come. We can only ascertain positively that it is tuberculosis by making the micro-chemical test. The diagnosis being made, the offending organ or gland should, if practicable,

be removed, as the lymphatic vessels are the principal means of transport for the infection, and general tuberculosis may be the result unless this is done.

Austin Flint taught that phthisis was never primative in the larynx. It was Virchow who first made this subject understood. Frantzel has described in ten cases of laryngitis, the importance of tubercle bacilli in the sputum which is expectorated, or taken from the larynx by the aid of the brush. This I have done, and have proven that phthisis is primative in the larynx.

Supposing we have a case of pharyngeal ulcer, the differential diagnosis is easy. Scrape a little mucus or pus from the surface of the ulcer, examine this for Koch's bacillus, and if none be present you have not tuberculosis or scrofulosis. Right here let me add that scrofula is peripheral, while tuberculosis is central.

They are both produced by the same cause. Wherever you find the bacilli of Koch, you have phthisis. This disease, although presenting itself in many different forms, is always the same bacillosis and produced by the same cause, the tubercle bacillus. As Germain See says, "There are not six species of phthisis, as Boyle wished to establish, nor two—tubercular and inflammatory. It is always tubercular as taught by Laënnec, and always bacillary as demonstrated by Koch. To demonstrate to you the great value of ascertaining whether or not the germ of consumption be present, permit me to relate a case. Mrs. M. had been very ill for several weeks. Both lungs were in the condition you might reasonably expect to find a case of miliary tuberculosis. Respirations and pulse were rapid, temperature went up as high as 108° F. A consultation was had and a prognosis of death given. The physician was discouraged and so were the family. It was about this time that I saw her with her physician. We examined the sputum, and much to our surprise found *no* bacilli. We examined again and still did not find evidence of tuberculosis. This was encouraging. We now concluded that it was (as her physician diagnosed at the beginning) catarrhal pneumonia, and that if we could keep her alive by the aid of stimulants for a few days until the lungs should begin to clear up, she might get entirely well. We gave a favorable prognosis. The family were encouraged, the physicians were encouraged, and the patient partook of the same,—for we told her that she would get well,—and she did recover entirely, and to-day is the picture of good health. How important was the negative result of the micro-chemical examination of this sputum? To prove to you that phthisis is curable, I must tell you that the records of the autopsies at the New York City Hospital show that more than one-half of those on

whom *post mortems* have been made have had consumption. I have had considerable experience in making autopsies myself, and in fully one-half of all cases examined I have found old scars and other evidences of cured phthisis. Prof. Bronardel in medico-legal autopsies on individuals reputed to be healthy found four-fifths with tubercular lesions in all stages.

In growths of the nose and throat it is often necessary to know the nature of the growth in order to determine whether to operate or not. This can be done very easily, by cutting a small piece off of the growth, staining, and examining with microscope. This makes the diagnosis and the treatment and prognosis come easily after that.

Many times we see cases of "leucorrhea," so-called. We cannot get a history of gonorrheal infection, yet we half suspect that it is specific. How are we to prove our suspicions or make a diagnosis? By the aid of the microscope.

Wm. Jap. Sinclair says: "All experience goes to show that the presence of the gonococcus settles the question; it is the pathognomonic sign of the disease. If gonococci are present in the discharge from an inflamed mucous membrane, the discharge is of gonorrheal origin." Thus you see the method of making a positive diagnosis is easy.

When we have a case of ophthalmia in a new-born child, we should never fail to look for the "gonococcus Neisser." If this were done oftener, many children could be saved from being totally blind. I have known of a physician, when his attention was called to the eyes of a new-born child, say, "Oh, just put a little breast milk into the baby's eyes and they will be all right," and the result was the child lost the sight of both eyes.

The discovery of the tubercle bacillus by Koch was but the beginning of the discovery of the causes of many diseases hitherto shrouded in mystery. It was years before all or a majority accepted this as a truth. Now it is universally accepted.

Another great discovery is the finding of the "hematozoa of malaria" or the "oscillaria malariæ" of Laveran. The word malaria is too frequently used to hide our ignorance. The term is used so loosely that when we say to a patient, "You are afflicted with malaria," he is as wise as before we spoke. The time has, I believe, come when we need no longer speak of malaria without a definite understanding of what we mean by that word. Prof. Welch, of Johns Hopkins University, tells me that he considers that the microörganism of malaria is as *surely* present in the blood of patients suffering with intermittent fever as the bacillus of Koch is present in consumption. This organism—

not a bacillus—was first described by Laveran and communicated to the Paris Academy of Medicine in 1881 and 1882. He found in the blood of persons attacked with malaria: first, crescentic pigmented bodies; second, pigmented bodies in the interior of red blood corpuscles which underwent changes in form described as amæboid; and third, a pigmented flagellate organism. These observations were confirmed by Richard, Marchiafava and Celli, and also Councilman and Osler, of Baltimore.

It is an easy matter to get the blood. But, first, you must be certain to cleanse the finger, or whatever portion of the body you take it from, before introducing your needle. This is important, as the skin often contains coal dust or some pigment that will interfere with your microscopical examination. Examine the blood fresh without any other preparation.

Klebs and Tommasi-Crudeli claimed to have discovered the *bacillus malariæ* some two years before Laveran described the microörganisms referred to; but Laveran and those who confirm his discovery do not even mention the bacillus discovered by Klebs, although they must have known of this supposed discovery of the bacillus.

Prof. Osler, to whose paper I am indebted for most of my knowledge concerning the hematozoa of malaria, examined the blood of seventy patients suffering with malaria and found these organisms in all except eight, and nearly all of these eight had taken quinia. Quinia causes the hematozoa to disappear. I have seen these organisms but once, and it was in a typical case of intermittent fever. I believe that if we examine the blood of all cases of doubtful malaria, that we will convince ourselves that this disease is not as prevalent as we have been taught to believe.

A certain physician said to me not many months ago: "Doctor, I tell you that quinine in big doses will cure cases of anemia when other remedies fail." I think I can see now why this is true. The microörganism of malaria destroys the hemoglobin of the red blood corpuscle, and of course produces anemia, and in these cases of chronic malarial anemia all ordinary remedies used for anemia fail because they do not destroy the hematozoa of malaria. Your large doses of quinia accomplish this, and then your patient is in a position to improve with the aid of good nourishment, etc. I hope to be able to demonstrate to you the presence of these pigmented bodies in the blood of malarial subjects before very long. It is necessary to examine the blood at or about the time of the chill, unless it be a case of chronic malaria where there is no distinct chill. When I was a student at Bellevue, Professor Flint, now dead, taught that there

was such a disease as "typho-malaria." This is now proven to be false. To prove that a given case is not malaria, but *enteric fever*, all you have to do is to examine the blood—a negative result would satisfy me that it was not malaria. Since writing what I have on malaria, I have received the first volume of the Cyclopedia of Diseases of Children, edited by Keating. I find that in this work Forchheimer has written a chapter on malaria, and has inserted some of the figures shown by Osler, showing the pigmented bodies in the red blood corpuscles. He also says regarding the value of the discovery of this microörganism :

Cases have been reported in which the absence of the plasmodium in the blood was sufficient to disestablish a diagnosis, and in my own experience two cases have occurred which have conclusively proved to me the importance of examining the blood in doubtful malarial cases. The one case was an atypical typhoid fever, in which, as there was a strong tendency to an intermittent type of fever, the diagnosis of intermittent fever had been made and corrected by the repeated failure to find the plasmodium, and in which the patient finally died of a perforation of the intestines. The typhoid lesions and perforations were all demonstrated by autopsy. The other case was one in which the diagnosis of typhoid had been made, and in which the plasmodium was found during a chill and promptly relieved hy a large dose of quinine. Not only in grave cases like these, but also in comparatively mild ones, neuralgia, intestinal troubles, etc., the plasmodium, or hematozoa, can be demonstrated, and with patient search, a *positive diagnosis* can always be arrived at.

Now, gentlemen, I think I have demonstrated to you the great value of the microscope in assisting us in making diagnoses. To be sure, I have mentioned but a few diseases in which it is of great service to us as practitioners; but I think that I can safely say that in every case of prolonged illness the microscope should be called into service, either for the examination of the sputum, the urine, or some other secretion or excretion.

I am very thankful to you, gentlemen, for the honor conferred upon me the past year.

290 West Avenue.

HYSTERIA.[1]

By JAMES WRIGHT PUTNAM, M. D.,

Clinical Lecturer on Nervous Diseases in the Medical Department, University of Buffalo.

It would seem that an apology were necessary before presenting a paper on Hysteria before a pathological society, for the science of to-day has repudiated the pathology of the past, and has offered nothing to replace it.

1. Read before the Buffalo Pathological Society, September 20, 1889.

Because of the importance and frequency of the hysterical condition, I wish to present some facts relating to its diagnosis: In the first place we must say that nineteen-twentieths of the cases are found in the female sex, and that the graver forms of hysteria occur in both sexes, in the old and young.

There are certain points in aetiology that must be considered. Heredity in hysterics to parents with nervous disease, or brain disease, may be traced in twenty-five per cent., while thirty-three per cent. of the children born of hysterical mothers are hysterical.

Climate does not appear to influence hysteria, neither does social position, for, like the gout, it attacks the poor and the rich. City life predisposes to it more than country life. The mode of education and the mode of life and choice of books have their influence. Before Briquet's masterly study of hysteria, it was the ordinary belief that continence in women was a powerful factor, as illustrated by the number of cases occurring in convents.

The fact, on more careful study, shows that the nuns who are members of the active charitable orders which require them to give their minds and bodies certain healthy employment, are relatively free from hysteria, but that in the mystical and contemplative orders, hysteria was frequent; while, on the other hand, in Paris hysteria was found to be present in a large percentage of prostitutes by Briquet. And on his authority we base the statement that continence does not cause hysteria; we may look for this disease as a complication to organic disease, and to such general conditions as anemia, sclorosis and rheumatism. After profound mental emotions, as fear and sorrow; after accidents, causing injuries, we may also see hysteria develop, also after great fatigue.

A few rules must be borne in mind when looking for this condition: first, and of primal importance, is, that in a very large proportion of cases, some disturbance of sensation will be found, either hyperesthesia or anesthesia, or peculiar sensation. These may be distant from the location of the disease complained of. For example, recently in the female ward of the General Hospital, I was shown a patient who presented the symptoms of general chorea. Suspecting from the character of the movements that they were largely hysterical, I put my finger on her right eye and found the conjunctiva almost completely anesthetic.

A patient sent me by Dr. Park, with rythmical movements of the entire right upper extremity and contraction of the flexor muscles of the hand, had anesthesia from the elbow down, also a narrowing of the visual field of both eyes. This condition developed in a night,

during convalescence from a sharp attack of quinsy. The patient had been a heavy drinker for some years. This man was 24 years old, a farmer by occupation, and was not one in whom hysteria would be expected. He was treated by static electricity and spinal douche. He improved rapidly for three weeks, when he found the temptations of the city too great for him, and commenced to drink. The anesthesia, which had disappeared from the arm and back of the hand and three of the fingers, returned one night, and involved the entire hand and wrist. He disappeared one day, and I have lost track of him.

Another case of interest is that of a business man, aged 39, who was engaged to be married. Within four weeks of the date set, he was apparently in perfect health, when suddenly, and without warning, he became aphonic, and, dreading paralysis, he became melancholic.

Examination detected no change of sensation of the skin; fields of vision, normal; smell, and taste, and hearing, normal; but found anesthesia of the pharynx. In addition to the hysteria, he was constipated, and had a heavily-furred tongue. He was treated with cathartics and spinal douches, and in one week he recovered.

A patient sent me by Dr. Boardman presents the following history: Widow, colored, hairdresser; has been afflicted with incomplete loss of power of entire left side for three months. Examination shows diminished sensation of that side, and also sensitive left breast and left ovaralgia.

In five weeks after treatment, the patient was so far recovered as to resume her occupation; the sensory symptoms had entirely disappeared, and the dynamometer showed an increase of twenty pounds in the grip of left hand.

The brevity of this paper should be explained to the society. I desired to limit my report of cases to such patients as I had seen in Buffalo.

388 Franklin Street.

A lady who never failed to have her little jest with the doctor all through a painful illness, exclaimed one day when he was announced: "Tell him I'm very sorry, but I don't feel well enough to see him to-day."—*Medical and Surgical Reporter.*

Translations.

SOME EXPERIMENTS WITH CALOMEL AS A DIURETIC.

By Prof. J. G. EDGREN.

From the original Swedish, in *Hygiea*, by Mr. L. G. Sellstedt.

It is known that calomel has of late been highly recommended as an excellent agent in increasing diuresis in cardiac ascites and anasarca. Persons with insufficient heart-energy, and consequent exudations into the serous cavities of the body and the subcutaneous areolar tissues, have, in a short time, had these fluids lessened or entirely removed by calomel treatment. In by far the greatest part, this has been the result of a considerable increase in the flow of urine, which took place the second or third day after the commencement of the treatment. The usual dose has commonly been twenty centigrams three times a day, and but a few days' treatment has sufficed, in a marked degree, to increase diuresis, and thus give the patient great relief, even if this, in the nature of the case, could only be temporary. Opportunity to prove these statements has richly been found in the Seraphim Hospital of late, and it may possibly be of interest to describe a few cases thus treated with calomel. To this end, I will begin with a case when the working of calomel was particularly striking, while that of digitalis showed itself impotent in any considerable degree to augment the diuresis. This case is even of interest in that the calomel treatment was continued longer (eleven successive days) than in general had been the case, and without exhibiting the smallest symptom of poisoning:

Anna W., 66 years old, widow, was received at the Seraphim Hospital the 7th September, 1888.

The father of the patient died, at the age of 84, of old age, the mother, at 57, of consumption; even her maternal grandmother seems to have died of consumption. In her home, she labored hard, but in other respects was comfortably situated. She had not used alcoholic stimulants, but had drank a great deal of coffee. She had the measles when a child, was well afterwards until she was fifty years of age, when she lay sick for seven weeks with what, according to her statement, must have been typhoid fever. She has never had fever and-ague, rheumatism, or lues. Her menses commenced at 17, and have always been regular. She had the first sign of her present illness three years since. After taking cold, she had pains in her left side, in the region of the heart, palpitation of the heart; the pains went away, but the palpitation continued. About midsummer 1877, she discovered, for the first time, that her left foot was swollen. The swelling spread up the leg, and appeared even in the other foot and leg, so that in about eight days it had reached her waist. The physicians consulted informed her that she had heart-failing. Medicine was

prescribed, and the swelling disappeared in a few days, reappeared after a fortnight, but vanished anew on applying the same remedies. Afterwards, the patient was, with the exception of the palpitation, tolerably smart till Christmas eve, when the legs began to swell again, and soon invaded even the abdomen. In the beginning, the swelling disappeared at night, but soon became permanent. During the Spring, the swelling increased more and more, and at last she applied for admission to the Seraphim Hospital. Upon entering the hospital, her condition was mainly the following:

The patient was much reduced in flesh, the abdomen enormously distended, containing free liquid, and measured around the navel 110 centimeters. Edema of the feet, above the ankles, reaching upward on the legs, the waist, and the walls of the abdomen, and the front of the thorax, above the nipples. The precordium somewhat bent forward, pulsations in the third, fourth, fifth, and sixth interstice. Plain, positive, systolic vein-pulse, not only in the veins of the neck, but in the network of veins in front of the thorax, as far as its termination. The beat of the point of the heart was felt in the sixth rib-interstice, in the forward part of the line of the axilla. The upper boundary of the heart-pressure was the third rib, and downwards, at the sixth; to the left, as far as the forward line of the axilla; to the right, it extended to a depression[1] which occupied the greater part of the half of the thorax. Over the point of the heart was felt a weak systolic tremor (*fremissement*). In auscultation, both heart-tones were heard; after the first, a prolonged blowing sound, plainest at the point and to the left, at the lower end of the sternum, but was perceptible even at the base. The diastolic sound was fairly clear, though some slight obscurity and faint scraping sound was sometimes perceived. The action of the heart was irregular, the arteriæ radialis somewhat stiff, but not pearl-string-like. Over the fore-part of the right lung, a depression from the upper edge of the third rib; on the back part, a depression from angulus scapulæ, on both sides, downwards. The respiratory sound, weak where the depression commences, and almost inaudible farther down; sparse rhonchi and moist ralls. Pectoral fremitus extremely weak over the lower parts of the lungs. Urine, acid, sp. gr. 1020, has trace of albumen; amount, 400 cubic-centimeters per day (twenty-four hours).

The result of examination indicated that the patient suffered from organic heart-failure, insufficiency of the mitral valves, possibly complicated with stenos in ostium venos sinistrum, together with insufficiency in valvula tricuspidalis, insufficiency of the muscles of the heart, and consequent edema, ascites, and hydro-thorax.

The treatment and its results I have arranged in the following table:

Date.	Treatment.	Quantity of Urine. Cubic-centimeters.	Abdominal Size. Centimeters.
September 8	. . . . .	400	110
" 9	Digitalis	500	. .
" 10	. . . . .	300	. .
" 11	. . . . .	600	. .
" 12	. . . . .	900	. .
" 13	. . . . .	900	. .
" 14	. . . . .	900	110
" 15	Digitalis	700	. .
" 16	. . . . .	1,200	. .

1. The word which is here translated depress means to suppress or smother.—Tr.

Date.	Treatment.	Quantity of Urine. Cubic-centimeters.	Abdominal Size. Centimeters.
September 17		1,000	. .
" 18		800	. .
" 19		500	. .
" 20	Calomel, 0.20, 3 times daily,	600	.
" 21		2,700	105
" 22		2,600	. .
" 23		900	. .
" 24		800	. .
" 25	Digitalis	700	. .
" 26		800	. .
" 27		700	106
" 28		1,600	104
" 29		3,000	101
" 30		1,800	. .
October 1		2,900 [1]	99
" 2	Calomel, 0.20, 3 times daily,	3,100	96
" 3		3,300	. .
" 4		2,600	90
" 5		2,500	. .
" 6		2,400	83
" 7		2,400	. .
" 8		1,800	78
" 9		1,500	. .
" 10		1,500	76
" 11		1,100	. .
" 12		1,400	. .
" 13		. .	75

When the patient was discharged, the 13th of October, the edema, ascites, and hydro-thorax were completely absent, the action of the heart regular, the point of the heart somewhat in advance of the forward-line of the axilla; weak systolic second sound at the point; accentuated second tone over the pulmonalis. Vein pulsation still visible, but much weaker; abdominal walls shrunk and sharply wrinkled, the liver easily felt, no marked changes in the same.

In this case, the use of digitalis did not succeed in bringing about a sufficient diuresis. It is true that the action of the heart became more regular, and an increase of urine was exhibited, but too slight to be of consequence. On the other hand, the quantity of urine increased very considerably with the first use of calomel, 60 centigrams daily, during three days. A new attempt with digitalis gave no result. When now calomel, for the second time, was employed, it was continued eleven days with the same daily dose, with the result that the diuresis was enormously increased, and, in consequence thereof, the

1. During these days, the patient had diarrhea, and the urine could not be perfectly measured

transudations everywhere disappeared. During the whole of this time, the patient exhibited no trace of toxical effect, and only during two days a slight diarrhea appeared.

Several other cases may be cited where fluids have collected, as well in the great serous cavities as in the areolar tissue, by reason of the insufficient working of the heart. Thus there is, at present, the case of a boy, nine years of age, indicating insufficiency and stenos in the mitral valves, ascites, and considerable edema of the lower extremities. At his admission, the measure round the abdomen was eighty centimeters, and the quantity of urine during the first days of his stay ranged from 150 to 400 cubic-centimeters; nay, sank as low as fifty cubic-meters a day. After three days' exhibition of calomel, in doses of ten centigrams three times daily, the quantity of urine rose to 2,110 and 2,900 centimeters a day. Now the medicine was discontinued for two days, and again calomel was resorted to, with the same doses as before. Under this, the quantity of urine was between 1,500 and 2,000 cubic centimeters per day for six days. The increased diuresis resulted in an important abatement of the dyspnea and the edema of the lower parts of the body; and the abdomen, in a fortnight, diminished from eighty to sixty-eight centimeters. Even in cases where no clinical signs of valve failures were found, but insufficiency in the power of the heart may have been due to degenerative processes in the muscular structure, independent of valve failure, calomel has been proved a most powerful diuretic. A watchful care of the patient must, however, be exercised. Signs of salivation may show themselves in some patients after taking a few twenty-centigram doses. Thus, a girl, 26 years of age, who was cared for at the Seraphim Hospital from the 12th of September till 18th of October, with plainly exhibited symptoms of insufficiency and stenos in the mitral valves, already, after four days' treatment, (0.20 x 3 daily) exhibited toxical symptoms (salivation and tenderness in the gums), when, of course, the remedy was discontinued. The quantity of urine rose from 400 cubic-centimeters a day, before the treatment, to 1,000, 1,800, 2,400 cubic-meters, and the abdominal measure lessened from eighty-six to seventy-six centimeters. The diuretical action of calomel is, therefore, very plain, and, so far as I can see, constant, where the abnormal collection of water depends exclusively on insufficiency in the muscular structure of the heart. If, on the contrary, obstructions in the portal system, with or without heart-failing, be the cause of the ascites and edema, it seems the diuresis cannot be increased, at least in the same degree, by calomel.

Several other cases, in support of this opinion, are minutely

described by the learned author, which, for want of space, must be omitted in this number.

It is worthy of note, however, that in the experimental treatment with calomel, a successful increase of diuresis has not failed to follow its use, when the ascites or other dropsical symptoms were due to heart-failure or valvular insufficiencies, and that, in all these cases, its superiority over digitalis was established. When, however, the edema, ascites, or other kindred symptoms, were the result of disease of the liver or the portal circulation, neither calomel nor digitalis were found effective. In support of this, an interesting account is given, where a middle-aged woman was under treatment for dropsical affection. Though, in this case, there were symptoms indicating valvular insufficiency, both calomel and digitalis were found impotent in producing increase of diuresis. Hydro-thorax supervened, and the patient died. The autopsy disclosed cancer of the liver. This organ had not been examined, on account of the distended state of the abdomen, and tapping had been deferred, owing to the low state of the patient. The heart was found in normal condition, and the valves in good working order.

In conclusion, the author remarks: "During the use of calomel, poisoning has very seldom supervened. Of all the cases which I have thus treated, the one alluded to above is the only one which has exhibited a slight swelling of the gums and any salivation. A slight diarrhea, consisting of some loose movements during a couple of days, has, however, a few times, been observed. Any deleterious effect on the action of the heart I never have noticed; digitalis has always been given two or three days—a longer or shorter time—before resorting to the calomel. Still, it may be necessary to watch over the patient during the whole time of the calomel treatment, so that the remedy may be discontinued at the first sign of salivation.

The results my experiments with calomel, as a diuretic, have given, seem to me to be comprised in the following statement:

1. Calomel is a very sure and quickly-acting diuretic in cardial hydrops.

2. If calomel does not increase the diuresis in a person suffering from ascites and anasarca, whose condition is not so low that, taken all in all, every medicinal treatment must be regarded futile, the probability is that the cause of the watery exudations must be looked for elsewhere than in the heart."

A CASE OF INVERSIO UTERI TOTALIS POST PARTUM. ACUTE ANEMIA—INTRAVENOUS TRANSFUSION OF COMMON SALT SOLUTION—RECOVERY.

Communicated by Dr. A. BERGSTRAND.

Translated from *Hygiea*, by Mr. L. G. Sellstedt.

The patient, a married woman, 32 years of age, *primipara*, had been delivered by a midwife. The delivery had not exhibited anything unusual, and the midwife denies having sought to loosen the afterbirth by pulling on the navel-string or other manipulations. While she was washing the child, she discovered that the blood was streaming from the woman, and, on investigation, the uterus was found lying like a great swelling in the vulva, while all the time a violent bleeding took place. Frightened and confused, she sent for two physicians, who immediately made their appearance. They ordered that the patient be at once brought to the hospital, which was near at hand.

How, and under what circumstances, she was transported is unknown to me, but when I instantly made my appearance she was without pulse, and utterly collapsed. She lay with closed eyes, but was able to open them, although the look was staring and lifeless. Consequently, she was not insensible, although very nearly so. The bleeding had now ceased. In the vulva lay a swelling, doughy and velvety to the touch, which proved to be the crowded and fully inverted uterus. The outward-turned mucous membrane was blood-red. How long time had passed since the afterbirth had gone off, cannot with certainty be determined; probably some hours, however. Copious ether injections in both arms were made without delay, and the cold legs were quickly swathed. After a hasty rinsing with quite warm solution of boracic acid, an attempt at reposition was made with well-disinfected hands. This failed, in spite of energetical attempts. These attempts at reposition were made by carrying the left hand above the symphysis into the funnel-shaped hollow of the uterus; with the other, an endeavor was, at the same time, made to carry it up towards the projecting fundus uteri. For fear that too strong pressure might rupture the wall of the uterus, and especially as the patient, at the attempts of reposition, awoke out of her coma and screamed out, it was determined to relax the tissues by means of a mild narcotic. As chloroform here could not, without danger, be resorted to, hypnotic suggestions and strokings were tried. These, though they did not result in full insensibility, acted so that the reposition succeeded. The hand now lay inside of the uterus, and was tolerably firmly cov-

ered by it. After it was taken out, an irrigation in the uterus was made with warm 3 p. c. solution of carbolic acid, immediately followed by a solution of boracic acid.

All hemorrhage was now arrested, but the patient was utterly prostrated, and seemed to be dying. No pulse could be felt, and the respiration was weak and superficial. Renewed ether injections were made, and when these had no visible effect, it was determined to make a transfusion with a solution of common salt. A provisional apparatus was arranged for transfusion; a common glass dropper, such as is used for dropping fluids into the eye, was fastened to a drainage-tube, the other end of which was strained over the glass tube of an irrigator with a rubber tube. The liquid which filled the irrigator (the transfusion liquid) was happily found at hand, and consisted of six grams of chlorate of soda and three grams of hydrate of soda, dissolved in a liter of distilled water, which was kept at a temperature of 38° C. The median vein was isolated, exposed, and opened sufficiently to admit the glass canula, after which by a pretty hard pressing of the irrigator, slowly, about half a liter was injected. When the liquid in the irrigator no longer sank, the operation was discontinued.

The result was surprising and obvious. The pulse began to be felt, and the face acquired life. The patient opened her eyes. If it was the transfusion alone which saved the patient, or in what degree the other injections had contributed, I leave undetermined. That the transfusion brought about a manifest action, cannot be doubted. Under the continued endeavors, by means of stimulants, to raise the sunken powers, the patient gained strength, but the danger was not yet over. Already, after a couple of days, a septic endometritis, with high fever, broke out. This was treated with thorough intra-uterine washes, morning and evening, with a 3 p. c. carbolic solution, and directly afterwards with solution of boracic acid, for fear of carbolic poisoning. The temperature began to sink, and the puerperal fever was conquered. The puerpery afterwards ran its course normally. She gradually recovered her strength, while keeping her bed for a somewhat prolonged period. After several months, she reported at reception hour with a blooming appearance.

The question of the intravenous and the subcutaneous transfusion has been treated by Ziemssen in an interesting paper in his Klinische Vorträge (1887, No. 3). Owing to the many dangers and difficulties accompanying the venous infusion, he makes himself an earnest advocate for the subcutaneous, which he has used with defibrinated blood on various occasions, as well in anemias as in poisonings. The technique of the latter is simpler. Ziemssen, however, holds that a bleeding

which threatens mortal results requires a transfusion of defibrinated blood. The infusion of salt may for a time delay, but cannot prevent death.

He thinks the subcutaneous common salt infusion particularly adapted to puerperal hemorrhages, where time and place often exclude the various more complicated processes. Here, all that is needed is a syringe (best, a horse morphine syringe), chloride of soda powder, about seven grams to the liter of boiled water. It is well, after the subcutaneous injection, to use massage, to spread the liquid. The syringe ought to hold about thrirty grams. Ziemssen's method was unknown to me when I met the above mentioned case; but if it should be shown that the subcutaneous injection works as well as the transvenous infusion, the former ought to be preferred, in view of its more simple technique.

THE TREATMENT OF PSYCHOSES BY OPIUM.

In A a recent number of the *Therapeutische Monatsheft* (Berlin), Dr. Ziehen, of Jena, publishes his results of the administration of opium in various psychoses.

In the past two years, ninety-seven patients have undergone treatment; forty-three cases of melancholia, four of mania, fifty of paranoia. He administered the opium three times daily, beginning with doses of one-half grain, and gradually increasing until in some cases sixteen to twenty-four grains were given daily. This was kept up for weeks at a time, according to the case under treatment. The opium was seldom given hypodermically, generally per os, and in the form of pure opium.

The results obtained were highly satisfactory, especially in the cases of melancholia. Of thirty-nine patients afflicted with melancholia, thirty-one recovered, or seventy-nine per cent. In those cases in which patients were troubled much with illusions, the results were not so favorable. In eight such cases, two only recovered. Particularly in senile melancholia did the opium render excellent service, also in melancholia hallucinatoria, and in those forms with fixed ideas. In melancholia "passiva" and "stupida," opium alone proved of little value, but combined with camphor (three-fourths to one-half grain daily), good results were obtained.

In mania, no benefit was derived from this treatment; the bromides and hyoscin were preferable.

In paranoia, the two forms, with hallucinations, and without hallucinations, are to be kept distinct. In the latter form (paranoia siniplex),

opium was contra-indicated. In "paranoia hallucinatoria," where cerebral exhaustion is the important factor, small doses, of three to nine grains, proved beneficial as long as hallucinations were present. In twenty-eight such cases, Ziehen reported twenty-four recoveries, or eighty-six per cent.

Ziehen advises this treatment to be given as early as possible in the course of the disease, and may be carried on with perfect safety in private practice.[1] W. C. K.

GLEANINGS FROM FRENCH JOURNALS.

By DR. A. DAGENAIS.

M. Tarnier presented a case, at the meeting of the Academy of Medicine, of a woman having an extrauterine pregnancy dating from 1856. This pregnancy had gone full term, the beating of the fetal heart could be heard, but the accoucheur, being certain of an extra-uterine pregnancy, asked the advice of Paul Dubois upon the necessity of a prompt intervention, who prefers not to perform laparatomy, and let things as they were. After a few days, the motion of the fetus stopped, the pain, which had been violent, disappears suddenly, and the patient got up soon after. In 1859, she consulted Nélaton, who refused to operate. A short time ago, M. Tarnier made an examination, which demonstrated a sub-umbilical tumor, constituted by the fetus. This tumor is divided in two parts, corresponding to the head and trone of the fetus.

Every year the French Red-Cross increases its material of ambulance. This year 100,000 francs have been given to that effect, which carries to date the value of this material to a million of francs.

A New Process of Expulsion of Foreign Bodies Swallowed. —A simple process which is actually in use at the clinic of Prof. Billroth, and which is known under the name of "*Cure de pommes de terre*," has already been indicated by Cameron (of Glasgow) in 1887. The patients are told to eat a great quantity of potatoes, which produces a uniform distention of the intestinal tube, and forces the expulsion of the foreign body by the natural channels.—*L'Abeille Medicale.*

1. This mode of treatment has not only produced good results in the hands of Dr. Ziehen, but several German observers recommend it very highly. Professor Mendel, in Berlin, has adopted it in his private hospital for the treatment of psychoses, and has been unusually successful. Particularly in "melancholia hallucinatoria" has the opium treatment rendered him excellent service, a large percentage terminating in recovery. The success which has attended two such psychiaters, as Ziehen and Mendel, should stimulate observers in this country to give this procedure a good and thorough trial. Bigoted motives should not deter one from doing his honest duty, even though it be the feeding of insane with opium.—W. C. K.

Selections.

RECENT MEDICO-LEGAL DECISIONS.

The following abstracts of recent decisions in medico-legal cases are taken from the paper of Marshall D. Ewell, M. D., Attorney-at-law, published in the *North American Practitioner:*

DRUGGISTS.

A graduate of a "school of pharmacy" which is one of the departments of an advanced institution of learning, such as the University of Michigan, whether situated in Kentucky or not, is a graduate of a "college of pharmacy," within the meaning of the Pharmacy Act. *State Pharmacy Board v. White*, 84 Ky., 626.

Graduation as a pharmaceutical chemist confers the honor of a "graduate in pharmacy." *Id.*

Under the Pharmacy Act of Kentucky, all "graduates in pharmacy" are entitled to be entered as registered pharmacists without submitting to an examination and without having served an apprenticeship, and any rule of the State Board of Pharmacy to the contrary is void. *Id.*

Mandamus will lie to compel the State Board of Pharmacy to enter a "graduate in pharmacy" as a registered pharmacist, since the board has no discretion in the matter. *Id.*

DRUNKENNESS.

Voluntary drunkenness which precludes a comprehension of the nature of the act, or recognition of the person killed, is no excuse for murder; but *mania a potu*, or any insanity or permanent unsoundness of mind resulting from the use of intoxicating liquors, will exempt one who commits a murder from punishment therefor. *Beck v. State*, 76 Ga., 452.

EMPLOYMENT.

A physician employed by the conductor of a train to care for a man injured by the train, can recover against the railroad company for his services if, after knowledge of his employment by the conductor, the company failed to notify him that it would not be responsible. *Terre Haute & I. R. Co. v. Stockwell*, (Ind.) 20 N. East, 650.

EXPERT.

When a medical expert is asked to give his professional opinion to a jury, not upon matters within his own knowledge, but upon a hypothetical case founded upon the testimony of witnesses previously examined in the case, the questions to him must be so shaped as to give him no occasion to mentally draw his conclusion from the whole evidence, or a part thereof, and from these conclusions, so drawn, express his opinion, or to decide as to the weight of the evidence or credibility of the witnesses; and his answers must be such as not to involve any such conclusion so drawn, or any opinion of the expert as to the weight of the evidence or the creditability of witnesses. *Kerr v. Lunsford* (W. Va., 2 L. R. A. 668, 8 S. E., 493.

The opinion of medical experts, founded on testimony already in the case, can only be given on a hypothetical case; and the hypothesis must be clearly stated, so that the jury may know with certainty upon precisely what state of assumed facts the expert bases his opinion. *Id.*

In putting hypothetical questions to expert witnesses, counsel may assume the facts in accordance with their theory of them. It is not essential that he state the facts as they exist, but the hypothesis should be based on a state of facts which the evidence in the cause tends to prove. *Id.*

The opinion of an expert witness as to the nature and extent of an injury to a person is not inadmissible because based in part on the statements of the injured person. *Louisville, N. A. & C. R. Co. v. Snyder* (Ind.) 20 N. East, 284.

HEALTH, BOARDS OF.

A resolution of the board of health, authorizing a person to compel those having scarlet fever to remain at home, and provide for their wants as long as necessary for the public safety, gives him authority to provide a physician for them. *Wilkinson v. Long Rapids Twp.* (Mich.), 41 N. W., 861.

An action by a physician employed under authority of the board of health of a township, to recover for his services, is properly brought against the township. *Id.*

INSANITY.

Insanity is a fact that cannot be proven by reputation, or by a witness who is not an expert, unless he first gives the facts upon which his opinion is based. *Grubb v. State* (Ind.), 20 N. East, 257.

Where there is an issue made as to sanity, and evidence is introduced under it tending to show insanity, there is no presumption to be indulged one way or the other. *Missouri Pac. R. Co. v. Brazil* (Tex.), 10 S. W., 403.

A defendant in a criminal case who raises the defense of insanity must prove it by a preponderance of evidence; and this applies as well to the causal connection between the fact of insanity and the crime committed as to the insanity itself. *Gunter v. State*, 83 Ala., 96.

A person, though of weak mind, but with sufficient capacity to distinguish right from wrong in respect to the particular acts charged, is accountable for his acts, and the plea of insanity will be unavailing as a defense for crime. *Anderson v. State* (Neb.), 41 N. W., 357.

An instruction reads as follows: "If you believe from the evidence that defendant fired the shot that caused the death of the deceased, and that, at the time of the controversy, defendant was in such a mental condition as to distinguish the difference between right and wrong, then he was responsible for his act, and you must convict," is erroneous, as it does not, standing alone, state a correct legal proposition. *Kearney v. People*, 11 Colo, 258.

Moral insanity, as distinguished from mental derangement, is not an excuse for crime, and does not exempt from punishment therefor. *People v. Kerrigan*, 73 Cal., 222.

MEDICAL PRACTICE ACTS.

A State statute making it a misdemeanor, punishable by fine or imprisonment, to practice medicine without a certificate from the State board of health that the practitioner is a graduate of a reputable medical college, is not unconstitutional as depriving him of life, liberty or property, without due process of the law. *Dent v. West Virginia*, 129 U. S., 114; 32 L. ed., 623; 39 Alb. L. J., 189; 28 Cent. L. J., 262; 9 Sup. Ct. Rep., 231.

The words "suitable graduate in medicine," in the California Act providing for the appointment of a county physician, include one legally licensed to practice medicine and surgery under the laws of the State, although he was never graduated at any college, school or university which confers the degree of doctor of medicine. *People, Attorney-General v. Eichelrath* (Cal.), 2 L. R. A. 770; 20 Pac., 364.

There is nothing in the Colorado Constitution which requires that each school of medicine named in the statute passed pursuant to its provisions shall be represented by equal numbers on the State board of medical examiners; and a certificate issued by a board having upon it more representatives of one class of practitioners than of another, will protect its holder. *Brown v. People*, 11 Colo., 109.

The fact that the mode of appointment of members of a State board of medical examiners may be irregular or unconstitutional, will not warrant the prosecution of a person practising medicine under the protection of a certificate issued by such board, as the members of such board are officers *de facto*, and their acts must be treated as valid upon a collateral attack. *Id.*

MALPRACTICE.

In an action against a physician, based on his lack of care or skill, the burden of proof to show such lack is on the plaintiff. *State, Janney v. Housekeeper*, (Md.) 2 L. R. A., 587; 19 Md. L. J., 917; 16 Atl., 382.

The party who allows a surgical operation to be performed is presumed to have employed the surgeon for that purpose, and the burden of proof to show lack of consent is on the party alleging it. *Id.*

If physicians attending a woman deem it necessary, for the preservation and prolongation of her life, to perform an operation, they are justified in doing so if she consents, whether her husband consents or not. *Id.*

The degree of care and skill required of physicians is that reasonable degree of care and skill which physicians ordinarily exercise in the treatment of their patients. *Id.*

COCAINE TABLETS.—These tablets are now largely used by careful physicians for extemporaneous preparation of any desired strength cocaine solution. The rapid deterioration of cocaine solutions make these tablets a necessity. To make a two per cent. solution of cocaine: In one fluid-drachm of water dissolve one cocaine tablet 1⅛ grain. To make a four per cent. solution of cocaine: In one fluid-drachm of water dissolve one cocaine tablet 2¼ grains. To make a ten per cent. solution of cocaine: In one fluid-drachm of water dissolve five cocaine tablets 1⅛ grain; or dissolve two 2¼ grain tablets and one 1⅛ grain tablets in one fluid-drachm of water. Parke, Davis & Co. guarantee the purity and anesthetic efficiency of their cocaine product, and will send samples of their cocaine tablets to physicians if desired.

BUFFALO MEDICAL AND SURGICAL JOURNAL
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EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

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Editorial.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

THIS Association, that was organized in this city April 19, 1888, has lately held its second annual meeting in Cincinnati, O. Some features connected with this Association and its annual meeting deserve something more than ordinary notice at the hands of the medical press, and merit especial attention of the medical profession; hence we venture to point them out at this time.

When this Association was organized, it is a well-known fact that the branch of medicine which is its special province to cultivate, had been denied representation in the Congress of American Physicians and Surgeons, by reason of the action of the American Gynecological Society, which had refused to enter that body. That society not only declined to take part in its proceedings, but it appointed its annual meeting to be held in Boston simultaneously with the meeting of the Congress in Washington, thereby clearly indicating that it would "have none of it."

As soon, however, as it became known that a movement was on foot to organize another society, it canceled its former action in appointing its meeting in Boston, and agreed, by letter vote, to assemble in Washington simultaneously with the Congress. It held its meeting as appointed, ate its political crow, swallowed the Congress, without a pang of indigestion. Meanwhile the new organization was perfected, held its first annual meeting in Washington at the time of the Congress, and its first volume of transactions has gone out to receive the verdict of the profession.

The following, from the New York *Medical Journal* for August 31, 1889, in a notice of the Transactions for 1888, is introduced here as an index of what that verdict is:

> This new Society has every reason for satisfaction as to both the matter and the manner in the first volume of its transactions. With the array of distinguished

names in the list of fellows, and the good work with which its career has been inaugurated, the Society has reason to expect a useful and creditable future. We might select a number of papers or discussions from the volume, and label them classical. The amplest justification for the existence of any society is furnished by work such as this.

We have failed to note, thus far, a single adverse opinion or criticism thereupon.

Meanwhile the second annual meeting of this body has lately been held, and its work will soon be accessible to the medical profession throughout the world. We bespeak for it a patient and thoughtful examination, as well as an impartial criticism.

REFLEX SYMPTOMS DUE TO PHIMOSIS.

In the *Lancet* of April 27th, Grant Langhorne relates the case of a boy, aged five years, who had suffered for two years from a dry, convulsive cough, especially marked at night, and which was at times accompanied by convulsions. Many physicians had treated the case without result. Langhorne himself had treated the child for a long time without discovering the cause of or ameliorating the symptoms, until one time, having been hastily summoned, he found the child lying in convulsions, with difficult breathing, livid face, and dilated pupils. He discovered, accidentally, that the prepuce was very long and completely adherent, and circumcised the boy, when he had the satisfaction of seeing the convulsions, and also the cough, permanently cured.

Such a case is interesting for a double reason: First, as showing how remote the cause may be from the scene of the effects; and, second, as illustrating the need for a more thorough examination of cases in which symptoms persist after ordinary therapeutic measures addressed to their relief. Especially in the case of children, where the question of modesty does not need to be considered, is it desirable to strip the patient so that every part of the surface of the body is visible to the naked eye, and can be thoroughly examined. It is a method which has frequently stood us in good stead, where others, more experienced, have overlooked the cause of the trouble. Only recently we were asked to operate upon a case in which the physician in attendance had diagnosticated an existing phymosis as the *fons et origo mali*. The patient, a child four years old, had, up to two years of age, been intelligent and kindly dispositioned. After this time he became sulky and malicious, requiring to be tied to his bed throughout the day. His mental condition at the time we first saw him was that of the ordinary imbecile, and for the past few months he had

been growing slowly worse. Circumcision was made, and to-day (some four months since the operation) the boy has markedly improved, runs outdoors alone, is not malicious, and is becoming mentally improved, as shown by his use of his memory and reason. His age, the short lapse of time since circumcision, and the long duration of his malady, of course make it less easy to judge of his actual mental state, and to prognosticate concerning it, but everything points to a complete and permanent cure. Yet here was a case where eminent physicians had been consulted. Men whose ability and experience we have the best of reasons for respecting, and who had failed to recognize the cause of the trouble. All because the child's clothes had not been removed. The attending physician told us the mother had remarked upon his method of examination, saying "the other doctors never did that."

We recall another case, in which tenotomy had been practised for a talipes equino-varus by a surgeon of fame and experience, in which circumcision effected a thorough and speedy cure. Such cases as these are full of interest and instruction, and demand the careful consideration of every painstaking physician. Especially should surgeons pay heed to reflex phenomena, as they so often depend upon some surgical trouble. To Hilton, perhaps, more than any other one surgeon, do we owe our thanks for the clear clinical descriptions given of this class of cases. Such a work as "Rest and Pain" must have a widespread influence, and induce every cautious surgeon to examine carefully any case presenting reflex symptoms not easily accounted for. We hope that a second Hilton may soon arise to add valuable contributions of a similar nature, and to teach us thoroughness.

As for the condition just considered (phimosis), it usually causes only local inconvenience, but the physician should remember that severe bladder symptoms, simulating those of stone, hematuria, spastic contractions, reflex paralysis, choreic symptoms, cough and general convulsions, as in Langhorne's case, can be dependent upon a contracted prepuce. Until this possibility is recognized and a *thorough* examination made, many cases will go on without being diagnosticated and, therefore, without successful treatment.

HEREDITY OF TUBERCULOSIS.—The importance now attaching to every phase of the study of Tuberculosis renders the following, taken from the *Sanitarian*, of interest:

Hutinel, of the *Hôpital des Enfants Malades*, has published a communication on the Heredity of Tuberculosis, of which the conclusions are as follows:

As for the direct transmission of the germ from the parents, we are warranted in affirming that communication by the father is not proved, and is very problematical; transmission by the mother may take place, but it is extremely rare.

Heredity, nevertheless, exists; for if the offspring of phthisical parents are not born tuberculous, they are *tuberculizable;* they may not, it is true, have brought with them the germ from their birth, but they have inherited a culture soil (*terrain*) favorable to its development.

In accordance with these conclusions, which are in harmony with a multitude of clinical observations, Langerhaus, who has long practised in Madeira, has noted that among the individuals not phthisical that have come to that island for a certain number of years, only those born of tuberculosis parents become infected by the numerous phthisical patients resorting to that island every year. Of every ten individuals with phthisical parentage, one died of tuberculosis, while the proportion of those becoming consumptive with no hereditary predisposition has been as one to sixty-eight.

CODEINE FOR MORPHINE HABIT.—Dr. Constantine Schmidt, of Wiesbaden, publishes an article in *Notes on New Remedies* (Lehn & Fink) for September, 1889, entitled The Cure of the Morphine Habit, in which he advocates the employment of codeine therefor. After reducing the morphine to a very small dose by gradual withdrawal, he substitutes codeine, employing only as much as seems necessary to relieve the symptoms consequent upon the withdrawal. The following words close the article:

As the latter grow weaker, and gradually vanish, the codeine is reduced proportionately until the last traces of the symptoms of abstinence, as well as the excitable nervous debility, disappear. Exceptionally there is an increase in weight, and in bodily and mental health. For these reasons, I feel justified in regarding the patients discharged as *cured* after this treatment, principally for the reason that for future occasions, instead of morphine, they have codeine as a remedy at their disposal, which is a certain safeguard against relapse. That the after-treatment must be directed towards the often long-lingering nervous weakness in all its various phases, and toward the antecedent diseases wherever such exist, is apparent, and needs no further comment. At all events, we must now recognize and intimately acquaint ourselves once for all with the idea, that for every habit there is but one cure, that the latter consists in conversion of the perceptibly growing weakness into gradually increasing strength, and that the successful treatment of the morphine patient, if its aim should *not* be a mere *withdrawal* but a real *cure*, must extend over several months, and can only be accomplished with *certainty* in an institution *specially* equipped, and under the guidance of a competent professional.

The author states that the codeine used by him is specially prepared by a peculiar process. Steps were at once taken by Messrs. Lehn & Fink to procure the special manufacture, and this variety of codeine can now be obtained in this country.

THE PHYSICIAN AND HIS JOURNALS.—The *Journal of the American Medical Association*, in its issue of September 21, 1889, under the above title, discusses a subject that is of much importance, and does it in an able and interesting manner.

In these busy days, when time must be economized to the utmost degree, it is important that a physician's literature shall be carefully selected, with a view to yield the greatest benefit from a minimized outlay of cerebration and money,—of brain-cells and dollars.

In this selection, the *Journal* justly enjoins upon physicians, as a first duty, the support of and contribution to their home periodical, in the following well-chosen sentences:

There is an ever-present tendency among men, in a sort of vague and misty way, to venerate the past; in a way quite egotistical to magnify the present, and also to compass the future with grandiloquent interrogations.

To the first and third counts we plead not guilty,—but to the second we enter our confession, since a simple statement of facts can hardly seem to those in other lands other than most notable exhibitions of egotism. When we come to enumerate the medical practitioners in the United States, the number of our medical schools and their improved facilities for teaching, the rapid development of medical societies and the numbers of medical journals that are in demand, we submit that the parallel is not to be found in the past or present history of any nation. If any one has doubts upon this subject, we commend to him the simple study of statistics. Again, there never was a time when in this and in other lands there was such an array of talent applied with utmost tension, to medical investigation. There was never a time when there was so much of original discovery, and never before such facilities for rapid advances in medical education. There never was a time when medical journalism was so enterprising as now, nor its pages so filled with valuable instruction, and there never was a time when a physician could so soon fall behind and be lost sight of as now. A single year's neglect will render his needs conspicuous. Only the most industrious and critical readers are fully abreast of the times, and in the hour of need and of their opportunity, how quickly these come to commanding prominence.

. . . . . .

We believe that a first duty of the medical man is to help develop, foster, and sustain the medical societies and medical interest of his own locality. He has power personally to stimulate his associates, and to aid them in organization and in medical progress. In the development of such local interests, nothing can be so helpful as the ably-conducted and well-supported local medical journal. To this he owes a primary obligation, both literary and pecuniary. Its pages should be replete with the recorded experiences of local contributors, while, in turn, it should garner for them the best of medical productions from all lands.

To the physician in quest of his second journal, we respectfully recommend the value and the claims of the *Journal of the American Medical Association*. While it is national in its relations and circulation, it will seek to further his local interests. It will give a continued series of valuable original papers, prepared and submitted by the leading men of the profession, at the annual meetings of the American Medical Association. It will give prominence to translations of the best literature published in foreign languages, and copious selections from the best writings at home

and abroad. It will devote itself to the dissemination of clinical instruction, and to the presentation of condensed reports of the proceedings of prominent medical societies. These, with the work of a corps of editorial writers widely representative of the American States, constitute our claim to the second place on the physician's list of medical journals, to which he should add as many others, home and foreign, as he can *thoroughly utilize*.

UNIFORMITY IN REPRINTS.—The Pittsburgh *Medical Review*, acting upon the hint of Dr. Charles Everett Warren in the Boston *Medical and Surgical Journal*, and seconded by the St. Louis *Medical and Surgical Journal*, has taken up this important question, from the practical standpoint, in its September issue. It gives a table of column measurements of eighteen double column, and twenty-three single column journals, and arrives at the conclusion, from their study, that two regular sizes should be adopted, to secure absolute uniformity of publication.

We have experienced the difficulties that are complained of by the author and journals named, and have given considerable thought to a solution thereof. While we recognize the considerable cogency and force with which the editor of the *Review* states his argument, we are yet of the opinion that it would be better to adopt one standard, instead of two, for all reprint publications.

This could easily be done by adopting the standard octavo as the size for *all* reprints. This, it is true, would leave wide margins in those of the double column journals, for they would print but one column on a page; but they look well so printed, and the wide margins are convenient for annotations. We have even seen the narrow columns of a newspaper so reprinted, and were impressed with the beauty of the work. Perhaps such magazines as the *University* and the *North American Practitioner* would be willing to reduce to the standard octavo, of which the *American Journal of the Medical Sciences* may be cited as a type, for the sake of bringing about this much-desired uniformity.

INSTANTANEOUS CURE OF WHOOPING-COUGH.—In the *Archievs of Pharmacy*, 1889, page 382, it is stated that the instantaneous cure of whooping-cough was attained by Dr. M. Mohn, as a result of accidentally observing that the disinfection of the sick-room of the whooping-cough patient by sulphurous acid caused the disappearance of the paroxysms with a rapidity bordering on the marvelous. The patients are freshly clad in the morning, and placed in another room, in which they remain during the day. Meanwhile, 25 gm. of sulphur is burned in the sick-room to each c. cm. of space; and after the bed-

clothing, garments, etc., have been properly spread out, and the sulphurous acid been permitted to permeate the air for five hours, the patients return to their disinfected sleeping-rooms in the evening, and are cured of whooping-cough.

Physicians may not generally be aware of the fact that sulphur bricks are obtainable, which may be burned to secure the effects of sulphurous acid by inhalation, or for general disinfectant purposes. Parke, Davis & Co. supply these, as well as a general line of disinfectants for household use, and will afford physicians all desired information concerning them, on request.

The Diagnostic Tampon of Schultze.—In our June number, we published this article complete, having received it as an original communication direct from the author, as shown by the following letter :

Honored Colleague— . . . . . I send you to-day an original article, which will appear very soon in the *Centralblatt für Gynäkologie*. I wish the subject upon which it treats—the Diagnosis of the Earlier Stages of Endometritis—to attract the attention of the general practitioner.

It will please me if you will have the article translated and receive it as an original communication in your journal.

Should you not publish it in your own, I beg you will send to that journal for which it is adapted.

With fraternal greeting,

Yours, very sincerely, B. SCHULTZE.

Jena, April 30, 1889.

The article was received in advance proof from the *Centralblatt für Gynäkologie*, and was translated by Dr. John Parmenter. The medical journals are giving excerpts from the paper translated from the *Centralblatt*, but we shall be pleased to furnish it entire to any who may apply.

At the recent annual meeting of the American Association of Obstetricians and Gynecologists held in Cincinnati, Dr. and Mrs. William H. Taylor tendered the Fellows a most brilliant reception on Wednesday evening, September 18, 1889. An opportunity was thus afforded the visitors to become acquainted with the physicians of the Queen City of the West, and many friendships were then formed or renewed.

Dr. Taylor retires from the presidency of the Association after two years' service, and may well be congratulated upon his successful administration of its affairs.

IODOFORM.—Dr. Emory Lanphear, of Kansas City, Mo., says that, after an extensive use of this "antiseptic," he has entirely abandoned it in favor of other agents—agents better in effects and far less disagreeable in practice. He found salicylate of sodium to serve an excellent purpose as a dressing in a purulent pleuritis where resection of a rib had been resorted to, and where alarming toxic symptoms had followed the use of iodoform.

We have found iodoform, that we formerly regarded with great favor, as entirely unsuited to gynecic uses, and have likewise entirely abandoned it.

THE BUFFALO *Sunday Express*, in its issue of September 22, 1889, published a most sensible editorial upon Infant Mortality in Buffalo, using as a text therefor the valuable paper upon that subject by Dr. Irving M. Snow, of this city, published in the September number of this journal. The *Express*, however, probably inadvertently, failed to credit the BUFFALO MEDICAL AND SURGICAL JOURNAL with the publication of the article.

WE PRINT an advertisement in this issue of our journal showing some remarkable statements from the well-known manufacturing and importing druggists, Messrs. Tarrant & Co., New York, which are based upon a recent court decision in Berlin. Every physician who is interested in preventing substitutions, or in obtaining genuine preparations, should give the communication a careful perusal. The time has gone by when business can long thrive through misrepresentation, and we hope for the sake of all concerned that the alleged irregularities may be cleared up or prove unfounded.

THE NUMBER OF STUDENTS attending the medical schools of Germany has increased to such an extent in the past few years, that the government has been petitioned to open new schools of medicine. The government refuses to do this, but proposes to remedy the evil by exacting higher tuition fees, and lengthening the course of study required for graduation.

IN DRAWING up the rules governing the proposed governmental university for Russia, the following paragraph, relating to the patients treated by the professors of this school, appears: "If a patient dies, the professor will be permitted, no reason or pretext being able to prevent, to make an autopsy of said patient in the presence of the students."

Menthol, according to the *Prager Med. Wochenschr.*, acts as a good anodyne, and is valuable in the local treatment of laryngeal tuberculosis. A ten per cent. solution should be used in the beginning, to be gradually increased in strength; a forty to fifty per cent. solution, however, causes severe irritation.

The International Scientific Congress of Anti-Vaccinators held its fifth annual meeting at Paris, September 3d, 4th, and 5th. The object of the Congress is to enlighten public opinion (?) upon this "grave hygienic question."

Hypnotism.—The Council-General of the Department "Lower Seine" (France) has adopted a resolution, presented by Drs. Fauvel and Lecompte, interdicting all open exhibitions of hypnotism in that department.

The *Chicago Medical Journal and Examiner* has suspended publication. This is noted with regret, for good medical magazines are not so plentiful as to disappear without being missed.

At the International Congress of Archeologists and Anthropologists, recently held at Paris, 420 delegates were present, among whom were five Americans.

The Gross Medical College, of Denver, will require a three-years' graded course for graduation after September 1, 1890.

Personal.

Dr. John B. Roberts, Professor of Anatomy and Surgery in the Philadelphia Polyclinic, has been chosen Professor of Surgery in the Woman's Medical College of Philadelphia, *vice* Dr. W. W. Keen appointed to Jefferson. Dr. Roberts is well known to the profession as one of the most accomplished of surgeons, as well as a most genial man, and we rejoice with his legion of friends at this appreciation of his skill as a surgeon and worth as a teacher.

Surgeon William S. Tremaine, U. S. A., until recently, on sick leave of absence in this city, was, under date of August 20, 1889, ordered, by direction of the Acting Secretary of War, to report in person to the Commanding General of the Department of the Missouri for assignment to temporary duty at the Post of Fort Leavenworth, Kansas.

Dr. H. Y. Grant has opened an office at No. 75 Niagara street, and will confine his attention to Ophthalmology and Otology. Dr. Grant is the son of Sir James Grant, of Ottawa, Ont., and we cordially welcome him to Buffalo.

Dr. Charles G. Stockton and Dr. Charles Cary, of this city, were elected members of the American Association of Physicians at its recent annual meeting in Washington, D. C.

Dr. Rollin L. Banta, of Buffalo, was elected Vice-President of the American Association of Obstetricians and Gynecologists for the ensuing year, at its recent annual meeting, held in Cincinnati, O.

Dr. Wm. C. Krauss, formerly of Attica, N. Y., and recently returned from an extended period of study in foreign universities, has opened an office at 176 Franklin street.

Society Meetings.

The following call has been issued: "The members of the medical profession in Alabama, Georgia, and Tennessee are requested to meet in Chattanooga on the third Tuesday in October, for the purpose of forming a Tri-State Medical Association. All will be admitted to the meeting of the Association, but the membership will be restricted to graduates of regular medical colleges in good standing."

This call is signed by committees from Jackson County (Alabama) Medical Society; Chattanooga (Tennessee) Medical Society; Cleveland (Tennessee) Medical Society; Cartersville (Georgia) Medical Society; Dalton (Georgia) Medical Society.

It is hoped that there will be a general turnout of the profession. Papers of interest have been promised by prominent men.

This organization will be independent of all other societies. It will be an association of individual members of the profession of medicine, and will be managed in the interest of medical progress. You are earnestly requested to be present and participate in the exercises.

The session will continue two days. If you desire to read a paper or exhibit a specimen, please notify the undersigned at an early date.

Another circular will be issued in due time, announcing the titles and authors of papers.

FRANK TRESTER SMITH, M. D.,
Sec'y of Committee.

American Public Health Association, Brooklyn, 1889.—The seventeenth annual meeting of this association will be held in the hall of the Brooklyn Institute, Washington and Concord streets, October 22d, 23d, 24th, 25th. Addresses of welcome will be delivered by Hon. Alfred C. Chapin, mayor, on behalf of the city, and by Alexander Hutchins, M. D., on behalf of the medical profession. The following topics have been selected for consideration at the meeting: I. "The Causes and Prevention of Infant Mortality." II. "Railway Sanitation." (*a*) Heating and ventilation of railway passenger coaches; (*b*) Water supply, water-closets, etc.; (*c*) Carrying passengers infected with communicable diseases. III. "Steamship Sanitation." IV. "Methods of Scientific Cooking." V. "Yellow Fever." (*a*) The unprotected avenues through which yellow fever is liable to be brought into the United States; (*b*) The sanitary requirements necessary to render a town or city proof against an epidemic of yellow fever; (*c*) The course to be taken by local health authorities upon the outbreak of yellow fever. VI. "The Prevention and Restriction of Tuberculosis in Man." VII. "Methods of Prevention of Diphtheria, with Results of such Methods." VIII. "How far should Health Authorities be permitted to apply known Preventive Measures for the Control of Diphtheria." IX. "Compulsory Vaccination." X. "Sanitation of Asylums, Prisons, Jails, and other Eleemosynary Institutions." Exhibition of sanitary goods and appliances in another large hall close by.

The Southern Surgical and Gynecological Association will hold its second annual meeting in Nashville, Tenn., November 12, 13, and 14, 1889, under the presidency of Hunter McGuire, M. D., LL. D., of Richmond, Va. The preliminary programme is replete with interesting subjects, and reflects great credit upon the efficient Secretary of the Association, Dr. W. E. B. Davis, of Birmingham, Ala. Members of the medical profession are cordially invited to attend, and we have no doubt that a successful and instructive meeting will result.

The Tenth International Medical Congress.—The following notice has been issued:

We, the undersigned, do hereby give notice that, according to the resolution passed at the Washington meeting, September 9, 1887, the Tenth International Medical Congress will be held in Berlin. The Congress will be opened on the fourth and closed on the ninth day of August, 1890. Detailed information as to the order of proceedings will be issued after the meeting of the delegates of the German medical faculties and medical societies at Heidelberg, on the 17th of September in the current

year. Meanwhile, we should feel sincerely obliged if you would kindly make this communication known among your medical circles, and add, at the same time, our cordial invitation to the Congress.

VON BERGMANN,
VIRCHOW,
WALDEYER.

THE CANADIAN MEDICAL ASSOCIATION held its twenty-second annual meeting at Banff, N. W. T., Aug. 12 and 13, 1889. A number of guests were present from the United States, and the meeting appears to have been a very successful one.

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS will hold its next annual meeting in Philadelphia, on the third Tuesday of September, 1890, under the presidency of Dr. E. E. Montgomery, of that city.

THE AMERICAN GYNECOLOGICAL SOCIETY, at its recent meeting in Boston, voted to hold its next annual meeting in Buffalo.

Medical College Notes.

DR. JOHN A. MILLER, Professor of Medical Chemistry and Toxicology in the Medical Department of Niagara University, has received the appointment of Instructor in Quantitative Analysis in Cornell University. Dr. Miller has arranged his work at Cornell so as to be able to give his usual course of lectures here during the Winter.

THE MEDICAL DEPARTMENT of the University of Buffalo opened its forty-fourth year Monday evening, September 23, 1880, with a large class. The faculty is again changed, Dr. Witthaus's resignation having been accepted, and his place filled by Professor C. M. Hill, of Watertown.

The introductory lecture was given by Dr. James Wright Putnam, who took the occasion to place some of the principles of our profession before his audience. The fact that the profession is a liberal one not bound by the past to any isms or pathies, was strongly insisted upon, and the advantage of specialism pointed out.

THE Medical Department of Niagara University opened for the session of 1889–'90 on Wednesday evening, September 18th. The address was given by Professor George E. Fell. After the address, Professor John Cronyn, President of the Faculty, announced that before the beginning of another session the college would be greatly enlarged to accommodate the increased number of students.

Book Reviews.

Transactions of the American Surgical Association. Volume VII. Edited by J. EWING MEARS, M. D., Recorder of the Association, with five illustrations. Cloth, 8vo, pp. xvi., 221. Philadelphia: Printed for the Association, and for sale by P. Blakiston, Son & Co. 1889.

The present volume sustains fully the reputation of the American Surgical Association for the good scientific work which it does. In variety and treatment of the papers presented, we doubt if any similar society can show a better record. Among the fifteen essays making up this volume, space permits mention of only a very few.

Dr. J. Collins Warren's paper on the Early Diagnosis of Malignant Growths, in which he advocates the use of a fine canula with sharp edges, and with which he removes a small portion of the tumor "en bloc," elicited a rather animated discussion as to the relative value of microscopical and clinical evidence in the diagnosis of malignant growths. The majority of the surgeons discussing the paper seemed to place rather small confidence in the findings of the microscope, and would only rely upon them when corroborated by the clinical aspects of each individual case.

The essay entitled Hernia: a Comparison of the Various Methods Adopted for its Cure, by Dr. Claudius H. Mastin, is an admirable review of this all-important subject. The author begins his historical résumé with the methods of Celsus, viz.: Incision, castration, cauterization, and bandage, and mentions in turn cauterization by acids and moxas, topical applications, as poultices and plasters, ligature of the sac, the royal suture, the scarifications of Le Blanc, invagination, without and with suture. Then he considers the various methods of later times, such as bruises, injections, subcutaneous operations, and the many modifications of the open treatment. Czerny receives the credit of introducing the last mentioned method, which the author briefly but fully describes. After discussing the modes of operating pursued by Ball, Macewen, Banks, Stokes, Alexander, McBurney, and others, Dr. Mastin comes to the following con-

clusion regarding indications for and methods of operating, which is best given in his own words:

From a comparison of all the methods, it is apparent that no fixed rule or procedure is established, and, although the radical operation is a marked improvement in the treatment of hernia, whether free or strangulated, we cannot consider it perfected, because the methods hitherto resorted to have not proved radical in results. The operation is ideally correct, but the question arises whether, with the uncertainty of success, the risk justifies the operation; especially so, if the circumstances of the individual are such that he can content himself with the use of a properly adjusted truss.

The discussion which followed is interesting and valuable. Each surgeon prefers this or that method, but all manifest a marked degree of conservatism in the cases which are deemed suited for operation. Dr. Agnew would limit the radical cure to strangulated and rebellious hernias, which cannot be controlled by a truss, and which endanger the lives of the patients, and in this opinion his colleagues mostly concur. Whoever wishes to get a good knowledge of the history of hernia, a careful discussion of the various indications for and against its radical cure, and of the many methods of obtaining the same, cannot do better than read this masterly paper of Dr. Mastin.

Another excellent paper is that upon Gunshot Wounds of the Intestines, by Dr. Theodore A. McGraw. The propositions which it advances are so original and striking that we feel justified in devoting a little space to it. The author has stated his views in the form of nine propositions, which may be briefly epitomized as follows:

Proposition First.—The gravity of an injury of this kind (gunshot wound of the intestines) depends partly upon the size of the missile. Experiments upon animals showed that extravasation was less likely to follow wounds from missiles of small than of large calibre.

Proposition Second.—Bullets which enter the abdominal cavity pass in a nearly absolutely straight line from the orifice of entrance through the peritoneum to that of exit; or, to their final stopping place in the viscera. Sixteen bullets were fired through the bodies of dead animals, only one showing any deviation from a perfectly straight line, and this but two centimeters in a course twenty-five centimeters long. Of nine bullets fired through living sheep, all went straight except one, which was lost. These experiments lead the author to believe that the idea of bullets glancing within the abdominal cavity is an incorrect one, and that "almost all apparent deflections of bullets fired into the abdomen are due to subsequent changes in the position of the abdominal walls or viscera, caused either by muscular contraction and relaxation, or by a change in the position of the intestines from the passage of gas and other causes."

Proposition Third.—An incision made directly in the course of the ball will give the shortest route to the injured parts. It has, beside, all the advantages of the median incision.

Proposition Fourth.—The contents of the bowel may be made to discharge through an open gunshot wound by manipulation and pressure. If no discharge

occurs, it is because the wound has been closed, either by eversion of membrane or by exudation of plastic lymph, and, in either case, will probably recover without suture if aseptic and the bowels quiet.

Proposition Fifth.—An empty condition of the alimentary canal is most favorable to healing. To secure this, evacuate the stomach when necessary. In small wounds of the stomach and duodenum, suture may be sometimes omitted if those viscera are empty.

Proposition Sixth.—Agglutination and limitation of the morbid process, consequent upon gunshot wounds of the intestines, may take place as early as the sixth day (hour?). Keep the abdominal incision entirely within the limits of the morbid area. We should then treat by irrigation and drainage, and postpone all further operative procedures until inflammatory action has all passed. All wounds of the abdomen, more than six hours old, should be incised in the line of the ball.

Proposition Seventh.—Senns' method of hydrogen-gas insufflation, however admirable in recent cases, should be used with great caution after the lapse of a few hours. It can cause rupture of inflammatory adhesions, burst open intestinal wounds nearly healed, and make a circumscribed peritonitis a general one.

Proposition Eighth.—The dangers of an operation for penetrating gunshot wounds of the abdomen are directly in proportion to the length of the same, and to the amount of evisceration. The length of an operation may be lessened by (1) examining only the viscera in the course of the ball; (2) suturing wounds, when possible, instead of excising them; (3) omitting all operative procedures in all wounds so thoroughly occluded by plastic material, that the contents of the bowel cannot pass through them; (4) operating first on those wounds which imperatively demand it (for instance, when stomach and small intestine are both perforated, attend to the latter first, because the empty stomach may recover from large wounds without suture), and suturing large before small wounds, and wounds discharging before those which are occluded; (5) never eviscerating a patient except for hemorrhage otherwise uncontrollable, or to find a discharging wound otherwise undiscoverable. The author is most positive in his conviction that evisceration, and even slipping the intestine through the fingers from one end to the other, are never to be done as routine practice. Both procedures cause great shock to patients usually exhausted. He says "it is better to have an occasional patient die of an undiscovered wound rather than to kill many by unnecessary procedures." A careful study of the course of the ball will render manipulation unnecessary of any viscera, or portions of intestine lying without the immediate neighborhood of the path of the missile.

Proposition Ninth.—In cases in which the patients are too weak to endure the radical operations (laparatomy and repair of intestinal wounds), laparatomy and drainage should take their place.

The paper caused a spirited discussion, in which the author's conclusions were greatly criticised. Most of the Fellows who entered into the discussion took opposite views concerning the straight course invariably taken by the missile, they believing that deflection does occur. They also advocate the median incision and evisceration, or at least thorough examination of the entire intestinal tract in all cases, rather than following merely the path of the ball.

There are several other papers in this volume which deserve

extended notice, but which cannot be here given. All in all, the transactions for 1889 make an interesting and valuable volume, which the surgeon will do well to carefully read. J. P.

Errors of Refraction. By FRANCIS VALK, M. D., New York. New York and London: G. P. Putnam's Sons. 1889.

Under this title are collected and published the lectures delivered by the author to his class at the New York Post-Graduate School. This monograph of 241 pages is composed of eleven lectures, each being in itself a concise and complete exposition of the subject under discussion.

Lecture I. treats of the Anatomy of the Eye, and is accompanied by numerous well-selected illustrations, some of which are reproductions of blackboard sketches. The author describes the different anatomical parts of the eye in a simple adequate manner, enabling his hearers to become acquainted with the most important facts, without burdening them with the detail of close anatomical and histological research.

Describing the action of the ciliary muscle, the author refers to the description given in Flint's physiology as the best:

> When this muscle contracts, the choroid is drawn forward with, probably, a slightly spiral motion on the lens, the contents of the globe, situated posteriorly to the lens, are compressed, and the suspensory ligament is relaxed. The lens itself, the compressing and flattening action of the suspensory ligament being diminished, becomes thicker and more convexed, by virtue of its own elasticity.

Lecture II. treats of refraction, the power of the eye in bringing rays of light to a focus on the retina, and the image there produced. The discussion of the laws of optics, and their application to the human eye, the refracting power of the various lenses and the explanation of the old and new methods of notation are very ably set forth in this chapter. For a more careful study of this chapter, the writer refers his hearers to Landolt's "Refraction and Accommodation."

In Chapters III., IV. and V. the writer takes up Emmetropia, Hypermetropia and Myopia. Each of these states of refraction are illustrated by imaginary cases, testing for vision with Snellen's letters, and correcting the same by means of proper glasses.

His opinions as to the cause of Myopia, about which so much difference of opinion exists, are summed up in the following words:

> Myopia is either congenital or acquired, as the case may be, though I believe that there are very few persons born myopic, except those who may inherit it. While in the acquired form, as you will find in many students, I think it is due to the constant straining and congestion of the eye, produced by the dependent position of the head when a person is leaning forward to read; also, from the

constant pressure that is exerted upon the sides of the globe by the normal tension of the ocular muscles.

The three causes would then be, according to the author, Congenital, Hyperemia and Congestion, and Intra-ocular pressure.

The writer does not concur with many in believing the myopic eye of about 3.0 D. the best eye for general use through life. The opinions of some of the German writers on this point are quite pronounced, perhaps, in some cases, because they are themselves myopes.

Lecture VI. treats of the application of the Ophthalmoscope in determining the degree of refraction, and the different modes of examining the eye. This chapter, one of the most difficult in ophthalmology, is rendered comparatively easy by the many schematic illustrations, and the author's painstaking style.

Lecture VII. is devoted to the discussion of muscular asthenopia, the different forms of strabismus, etc. As to the cause of amblyopia in a squinting eye, the writer does not believe it due to a non-use of the retinal elements, and suppression of the image on the retina, but thinks it congenital; the eye, unable to fix its visual axis upon an object, turns inward, and a convergent strabismus follows.

In Lecture VIII. are discussed the different forms of astigmatism, their detection by means of the ophthalmoscope, and their treatment by cylindrical glasses.

Lecture IX. is devoted to Retinoscopy, Pupiloscopy, or the Diagnosis of the Different Forms of Refraction by the Shadow Test. This method renders great service in the examination of illiterate persons, young children, and those with whom the other tests are impossible. The author deals with this subject in the same simple, concise manner which characterizes his whole work, rendering it at once plain and comprehensible.

Lecture X. treats of Presbyopia, and Lecture XI. is devoted to illustrative cases from private and clinical practice. The latter lecture deals with the practical part of Refraction, the clinical history, examination, and treatment of a number of cases are here reproduced.

The lectures, as a whole, are commendable alike to practitioner and specialist, being neither too technical for the former, nor too superficial for the latter. For a more thorough study of Refraction the reader is referred to the works of Donders, Landolt, etc.

This work, from the press of G. P. Putnam's Sons, is in keeping with the excellent work done by this house. Paper, print and illustrations are of the first quality, points which the reader does not care to overlook in these days of hasty and voluminous publications.

W. C. K.

Diseases of Women: A Manual of Non-Surgical Gynecology, designed especially for the use of Students and General Practitioners. By F. H. DAVENPORT, A. B., M. D., Assistant in Gynecology, Harvard Medical School; Assistant Surgeon to the Free Hospital for Women; Physician to the Department of Gynecology, Boston Dispensary, with numerous illustrations. Small octavo; pp. xiv.—317. Philadelphia: Lea Brothers & Co. 1889.

When we first glanced at the title of this book, we were inclined to regard it with disfavor, because of the fact that there were too many books written on Gynecology; and, again, because we regarded it of doubtful propriety for junior teachers to enter the field of authorship; and, still again, because we are opposed to manuals as a *class*, and as a rule. The larger treatises, and the most excellent work of Mundé on Minor Surgical Gynecology, together with the transactions of the special societies and the journalistic literature, would seem to amply supply the present needs of workers in this field. But it is well not to establish hard and fast rules on this, or, for that matter, upon any other subject.

A more careful examination of the work before us compels us, in all candor, to admit that it possesses considerable merit, and that its teachings in the main are healthful and wise. What the author says on the subject of the hot water douche is a plain and excellent exposition of that important method of treatment, and may be read with profit by all physicians who treat gynecological cases.

A number of useless instruments are illustrated, among which are four cuts of Jennison's uterine repositor or sound. Now, it would appear that we are already too far from Egypt and the Sphynx to admit such instruments to our armamentaria, or to waste valuable time in writing about them in our text-books. We are opposed to the use of any sound as a repositor; or, for that matter, to any sort of a repositor; they are not only absolutely useless, but are capable of doing positive harm; but of all such instruments (?), we should place Jennison's the lowest in the scale. We have had one in our possession since 1878, and we are happy to add that we have never used it. A uterus that cannot be reposited without other means than a sound or repositor, had better be left to itself, until, if the case be a proper one for an operation, a surgeon is employed who has the pelvic and abdominal instinct. This is neither the time nor place to discuss the reposition of a displaced womb, but we have felt called upon to say this much, lest some young member of the profession would follow blindly the conclusion that all the instruments illustrated in text-books are useful, and are even needed to practice gynecology.

If all the useless instruments that have been foisted upon an unwary profession could be expurgated, the world would be better off;

but what excuse can there be for authors, who are likewise teachers, to perpetrate such anomalies and perpetuate such error?

There is, as we have said at the outset, much to commend in this little book, though it may be a question of taste for a junior to make haste to write a book and to dedicate it to his senior, who is, himself, but little in advance of the author, either in years or experience. The writing of books should be left, for the most part, to men who have accumulated sufficient experience to warrant their posing as authors, and to justify their attempt to speak from the chair; and then they may properly be dedicated to still other men who have risen to supreme prominence, and have left a heritage of valuable knowledge for their successors.

The famous publishers have, as might be expected, made a handsome volume.

L'Enseignement et L'Organization de L'Art Dentaire aux E'tats Unis. Rapport Addressé a Monsieur le Ministre de L'Instruction Publique par le Dr. Kuhn. Pp. 299. Paris: Octave Doin, Editor. 8 Place de L'Odeon. 1888.

This report to the Minister of Public Instruction, on Dentistry in the United States, is based on observations made by Dr. Kuhn during his visit to this country at the time of the last International Medical Congress.

It contains a review of the dental laws of the several States and Territories, and the courses of study of the different dental colleges. Noteworthy among the latter is the report on the colored dental school connected with the Meharry Medical Department of Central Tennessee College, which is the only school of the kind in the world.

The report closes with a high appreciation of the position to which dentistry has reached in this country, and hopes that, little by little, they may some day approach us. "This hope should not be considered chimerical." The report is a masterpiece of thorough work.

J. W. P.

Essentials of Pathology and Morbid Anatomy. By C. E. ARMAND SEMPLE, M. D., London. Philadelphia: W. B. Saunders. 1889. 159 pages; cloth, $1.00.

This compend is No. 6 of the Saunders's series of question compends published by this house, and in character and appearance is similar to the others of this series.

The advantages of compends, to aid the student of medicine in preparing for examination or otherwise, has been questioned. All compends are but the extracts of larger and complete works, and in a

hurried review of a certain subject are valuable aids. In many cases, however, they lose their worth by enticing the student to peruse their pages, instead of attending at the lecture room, or to the careful study of standard text-books.

A compend of pathology and morbid anatomy labors under this last arraignment. Conciseness in describing pathological changes is to be striven after, but should not curtail that which is necessary in the elucidation of the subject under discussion.

This compend begins by taking up the discussion of the inflammations and inflammatory processes in the lungs, heart, blood-vessels, liver, kidney, stomach, brain, and spinal cord. These subjects are all treated, as far as possible, in a clear but concise manner, interspersed by several illustrations. Tuberculosis, the degenerations, and neoplasms are described more at length. The constitutional diseases and septic diseases are treated rather hurriedly, but adequately to outline their general pathological substrata.

The author dwells somewhat on the pathology of the urine; and a plate showing the various urinary deposits accompanies this chapter.

Under animal parasites are briefly described the various entozoa and dermatozoa, with good illustrations of trichina, the pediculi, and acari.

The closing chapter takes up the vegetable parasites. The classification of the different forms of bacteria and their characteristic mode of development makes this one of the most important and interesting of the whole book. Under the pathogenic bacilli are described the bacillus of anthrax, tuberculosis, leprosy, glanders, typhoid fever, cholera, etc. The cuts, showing these germs in their natural state, are very illustrative and nicely executed.

The typographical part of the work is very good, considering the low cost at which it is sold. W. C. K.

Annual of the Universal Medical Sciences—A Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by CHARLES E. SAJOUS, M. D., Lecturer on Laryngology and Rhinology, in Jefferson Medical College, Philadelphia, etc., and seventy associate editors, assisted by over 200 corresponding editors, collaborators and correspondents. Illustrated with chromo-lithographs, engravings and maps. Comprised in four standard octavo volumes of over 400 pages each. F. A. Davis, publisher: Philadelphia, New York and London. 1889.

The title above given indicates the scope of this unique and comprehensive work. When the series of 1888 appeared, we expressed our opinion of the value of this annual, according to it the fullest praise, and, upon a more complete examination, we see no reason to regret the stand then taken, or to recall the words we then wrote. On

the contrary, we regard it of inestimable value as a work of reference, and we should find it difficult to dispense with it.

This new series of 1889 more than confirms our previous judgment of this class of reference books, and we desire to record ourselves in unqualified approbation thereof. Several new features have been introduced, which the editor alludes to in his preface, that tend to increase its convenience. The most important of these, in our view, is the addition of an index to each volume, besides the comprehensive triple index at the end of the series. But the general plan adopted at first has been wisely adhered to, and we can only say, in conclusion, that, with such careful editing and superb printing, it is a work that should receive the liberal patronage of the medical profession throughout the world.

Inebriety: Its Etiology, Pathology, Treatment and Jurisprudence. By NORMAN KERR, M. D., F. R. S.; Fellow of the Medical Society of London; President Society for the Study of Inebriety; Chairman British Medical Association Inebriates' Legislation Committee; Consulting Physician Dalrymple Home for the Treatment of Inebriety; Corresponding Secretary American Association for the Cure of Inebriates. Second edition. Cloth; 12mo. London: H. K. Lewis, 136 Gower street, W. C. 1889. Pp. xxxii.—471.

This is the most complete monograph which has appeared on this important subject. Inebriety is here discussed in all its forms, complications, and sequelæ. The treatment of the habit of the drunken conditions of mania-a-potu, delirium-tremens, of the craving for liquor, is given with great clearness, and with the positiveness that comes only from experience.

The chapters devoted to the medico-legal aspects of inebriety are interesting, and an able exposition of the views of such men as Dr. Crothers and others, who wish to make inebriety a legal excuse for crime.

The marginal notes on every page, and the very complete index, make the finding of any special subject an easy matter. It is well set up, and is free from typographical errors. J. W. P.

Wood's Medical and Surgical Monographs. Volume III., No. 3, September, 1889. 8vo, pp. 288. New York: William Wood & Co., 56 and 58 Lafayette place. Price, single number, $1.00, or $10.00 a year.

The ninth number of this most valuable series of medical publications comes promptly to hand, and is every way equal to the preceding ones in interest and importance. The titles in the current number are: Congestive Neurasthenia and Nerve Depression, by E. G. Whittle, M. D.; The Art of Embalming, by Benj. Ward Richardson,

M. D.; The Etiology, Diagnosis, and Treatment of Tuberculosis, by Dr. H. Von Ziemssen; Psycho-Therapeutics, or Treatment by Hypnotism, by Dr. C. Lloyd Tuckey; Sexual Activity and the Critical Period in Man and Woman, by Dr. Louis De Sèrê.

The index to Volume III. accompanies this book. If any physician has not already subscribed to the series, he should make haste to do so, for it is a rare opportunity to obtain useful literature at a marvelously low price. At all events, he should secure the September number.

On Disordered Digestion and Dyspepsia. By FRANK WOODBURY, A. M., M. D., Fellow of the College of Physicians of Philadelphia; Honorary Professor of Clinical Medicine in the Medico Chirurgical College of Philadelphia, etc., etc. 12mo, pp. 82. Detroit, Mich.: George S. Davis. 1889. Price, in, paper, 25c.; in cloth, 50c.

Syphilis of the Nervous System. By H. C. WOOD, M. D., LL. D. 12mo pp. 135. Detroit, Mich.: George S. Davis. 1889. Price, in paper, 25c.; in cloth, 50c.

These two brochures are a continuation of the well-known Physician's Leisure Library. The subjects they treat upon are of sufficient importance, and the authors are so reputable, as to commend them at once, without comment in detail, to the studious physician. The enterprise of the publisher, in putting forth such valuable literature in so cheap a form, and with such typographical excellence, is deserving of all praise. They should find ready sale.

BOOKS AND PAMPHLETS RECEIVED.

Essentials of Materia Medica, Therapeutics, and Prescription Writing, arranged in the form of questions and answers, prepared especially for students of medicine. By Henry Morris, M. D. Philadelphia: W. B. Saunders. 1889.

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M. D. Philadelphia: Lea Brothers & Co. 1889.

Original Investigations of Cattle Diseases in Nebraska, 1886–1888. By Frank S. Billings, Lincoln, Neb. State Journal Co., printers. 1889.

Transactions of the Mississippi State Medical Association. Twenty-second annual session. Jackson, Miss.: Clarion-Ledger Printing Establishment. 1889.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Volume X. Washington: Government Printing Office. 1889.

Ophthalmology and Ophthalmoscopy, for Practitioners and Students of Medicine. By Dr. Hermann Schmidt-Rimpler. Translated from the third German revised edition. Edited by D. B. St. John Roosa, M. D., LL. D. New York: Wm. Wood & Co. 1889.

A New Operation for the Repair of Lacerated Perineum. By Bernard Burns, M. D. Reprint from Transactions of the American Association of Obstetricians and Gynecologists. 1888.

The Consideration of some Questions Regarding Puerperal Fever. By Charles Warrington Earle, A. M., M. D.

A Few Observations on the Etiology, Prognosis, and Cure of Incipient Cataract without Operative Interference. By A. R. Baker, M. D., Cleveland, Ohio. From Transactions of Ohio State Medical Society. 1889.

Fibromes Uterins; leur Traitement par l'Electrolyse (Method Apostoli) et leur Elmination frequente sous-Muqueuse par L'Action de L'Electricite. Par le Docteur la Torre. Paris: O. Doin, editeur. 1889.

Du Traitement des Fibromes Uterins par la Methode d'Apostoli. Par le Docteur Delatang. Paris: O. Doin, editeur. 1889.

Ophalematoma of the New-Born. By Charles Warrington Earle, M. D. Reprint from the *Journal of the American Medical Association.*

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Literary and Other Notes.

PROGRESS OF INVENTIONS SINCE 1845.

In the year 1845, the present owners of the *Scientific American* newspaper commenced its publication, and soon after established a bureau for the procuring of patents for inventions at home and in foreign countries. During the year 1845 there were only 502 patents issued from the United States Patent Office, and the total issue from the establishment of the Patent Office, up to the end of that year, numbered only 4,347.

Up to the first of July this year there have been granted 406,413; showing that since the commencement of the publication of the *Scientific American* there have been issued from the United States Patent Office 402,166 patents, and about one-third more applications have been made than have been granted, showing the ingenuity of our people to be phenomenal, and much greater than ever the enormous number of patents issued indicates. Probably a good many of our readers have had business transacted through the offices of the *Scientific American*, in New York or Washington, and are familiar with Munn & Co.'s mode of doing business, but those who have not will

be interested in knowing something about this, the oldest patent soliciting firm in the country, probably in the world.

Persons visiting the office of the *Scientific American*, 361 Broadway, New York, for the first time, will be surprised, on entering the main office, to find such an extensive and elegantly equipped establishment, with its walnut counters, desks, and chairs to correspond, and its enormous safes, and such a large number of draughtsmen, specification writers, and clerks, all busy as bees, reminding one of a large banking or insurance office, with its hundred employees.

In conversation with one of the firm, who had commenced the business of soliciting patents in connection with the publication of the *Scientific American*, more than forty years ago, we learned that his firm had made application for patents for upward of one hundred thousand inventors in the United States, and several thousand in different foreign countries, and had filed as many cases in the Patent Office in a single month as there were patents issued during the entire first year of their business career. This gentleman had seen the Patent Office grow from a sapling to a sturdy oak, and he modestly hinted that many thought that the *Scientific American*, with its large circulation, had performed no mean share in stimulating inventions and advancing the interests of the Patent Office. But it is not alone the patent soliciting that occupies the attention of the one hundred persons employed by Munn & Co., but a large number are engaged on the four publications issued weekly and monthly from their office, 361 Broadway, New York, viz.: The *Scientific American*, the *Scientific American Supplement*, the Export Edition of the *Scientific American*, and the Architect and Builders' Edition of the *Scientific American*. The first two publications are issued every week, and the latter two the first of every month.

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Professor of Materia Medica, St. Louis (Mo.) Medical College.

I would not do without it. It benefits me $500 a year in making collections alone. E. W. McALLISTER, M. D.,
South Bend, Ind.

For descriptive circulars, address DR. S. S. KILMER, South Bend, Ind.

INCIDENTS OF THE WAR.

(1). FIRST DIVISION HOSPITAL, SECOND ARMY CORPS, NEAR BRANDY STATION, VA., SURGEON W. W. POTTER, IN CHARGE.
(2). SECOND DIVISION HOSPITAL, SECOND ARMY CORPS, NEAR BRANDY STATION, VA., SURGEON JOHN AIKEN, IN CHARGE.

From Photographs by A. Gardner, Washington, D. C., taken in March, 1864.

Buffalo Medical and Surgical Journal

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Original Communications.

REMINISCENCES OF FIELD-HOSPITAL SERVICE WITH THE ARMY OF THE POTOMAC.[1]

By WILLIAM WARREN POTTER,

Brevet Lieutenant-Colonel United States Volunteers; Surgeon in Charge First Division Field Hospital, Second Army Corps; Surgeon Fifty-seventh Regiment, New York Volunteers; Assistant Surgeon Forty-ninth Regiment New York Volunteers; Recorder Second Division Hospital in Sixth Army Corps, etc., etc.

This promotion afforded me an opportunity to pay a short visit home, my first absence from duty since entering the service. I was mustered in as surgeon at the War Department, in Washington, on the 22d of January, 1863, and reported to the regiment for duty on the 31st.

The 57th N. Y. Volunteers was then encamped above Falmouth, and was attached to the Third Brigade of the First Division of the Second Army Corps. This division was then commanded by Major-General W. S. Hancock, who subsequently became famous as commander of the Second Army Corps. I had known General Hancock when he was a brigade commander in General Smith's Division of the Sixth Corps, as well as the members of his personal staff, who were still with him, and this acquaintance served me to a good purpose in my new relations about to commence.

We remained in camp near Falmouth, the troops doing picket duty along the Rappahannock, until the Chancellorsville campaign opened April 27th.

On the morning of Tuesday, April 28th, we marched at sunrise, and on the 30th crossed the river at United States Ford, bivouacking near Chancellorsville late that night.

At the battle of Chancellorsville, May 1st to 4th, the hospital of the First Division, Second Corps, was located in the woods, three-fourths of a mile in the rear of the Chancellor House, near the road leading to United States Ford. Here it was impracticable to even

1. Concluded from the October number.

pitch the tents, for the position of the troops was so changeable, and the lines were so unstable that, besides the danger of the enemy's fire, there was the additional danger of possible capture; so the wounded were placed in rows upon blankets, the dry leaves gathered by the attendants serving in the place of straw. Colonel Nelson A. Miles, 61st N. Y. Volunteers (now Brevet Major-General U. S. A.), was brought into this hospital with a supposed mortal wound. He was placed upon the table for examination, and, while the surgeons were thus engaged, a shell burst near by, killing the ambulance sergeant who brought the gallant Colonel off the field, and who was sitting on his horse intently watching the surgeons, anxiously awaiting the result, that he might take back to the front accurate information concerning the condition of his beloved commander. The wound proved less serious than was at first supposed, though the symptoms of collapse were alarming; nevertheless, this distinguished officer was spared to render valuable service afterward, both with the Army of the Potomac, where he rose to the command of a division, and in fighting the Indians on the plains since the close of the civil war; his record as a soldier having passed into history, while he is yet in the full vigor of his usefulness. On Monday, May 4th, a train of ambulances was loaded with wounded, and sent across the Rappahannock at United States Ford, onwards to Potomac Creek Hospital. I was sent in charge of the train, and delivered the wounded at the hospital the same night, remaining there on duty for two weeks afterward. While en route we passed sufficiently near to witness Sedgwick's gallant fight at Banks's Ford,[1] the bursting of the shells above the tree-tops in the gray twilight, making a brilliant, though destructive, pyrotechnic display.

At Gettysburg the hospital of the First Division was literally shelled out of its first position. The site was chosen early in the day on the 2d of July, soon after the arrival of the corps on the field, after its night's march from Taneytown. In the afternoon, while there was yet quietude along the whole line, I rode over to General Meade's headquarters on the Taneytown road, and, after making a short call, passed on to Cemetery Hill, to take a survey of the field from that point. Sweeping my glass towards the left, I saw the Third Corps, under Sickles, advancing in magnificent line of battle towards the Emmetsburg Pike. The day had been cloudy, with a misty rain a portion of the time; but now the clouds were breaking away, and, as the sunlight glinted on the burnished muskets and bright colors of the advancing host, a most beautiful and entrancing picture was presented

1. The Sixth Corps here literally cut its way through the enemy, and crossed to the north bank in the night.—W. W. P.

to the view. Two general officers, Howard and Doubleday, were standing near by watching the scene intently, and when, presently, a white smoke was seen farther to the left, and the latter exclaimed, "There, General, go the enemy's batteries," I began to realize, indeed, that the battle had opened. Returning to my post, I called again at headquarters; but in a few minutes the shells began to fill the air with their shrieking and hissing music, the location being such as to receive all long-range and stray projectiles. The fire soon grew so hot that everybody took to horse—generals, staff officers, orderlies, and escort, all left the place, but in the most quiet manner—Meade for the front, Pleasanton to look after his cavalry, and other officers to their various posts of duty. Meanwhile, I discovered that the first position of our hospital had become untenable, by reason of being in range of the enemy's fire, and a new location covered in by a hill, near a stream of water, had been selected. Here we remained until the battle was over, performing operations and attending to the wounded night and day, until all were finally cared for and removed to more permanent hospitals. General S. K. Zook, of the First Division, received a mortal wound on the evening of July 2d, and we sent him to a house near by. He survived less than twenty-four hours, and it was my sad duty to minister to his sufferings during this period.

During the battle of Gettysburg, the hospitals of the army, excepting those of the Twelfth Corps, were without their usual camp equipage, and, as a consequence, everything had to be improvised as best it could. Houses, barns, straw-stacks, and all available localities were seized upon; while even woods were, in many instances, the only protection obtainable. It appears that General Meade had given strict orders that no wagons should go to the front, excepting the hospital and ammunition trains, but the Chief Quartermaster had somehow failed to include the hospital trains in the exception, hence the embarrassment. When this was finally discovered, it was too late to rectify the mistake, and so we were obliged to improvise, as I have stated. Thus it came about that during the greatest battle of the war—certainly a pivotal battle—the wounded were subjected to greater privations, in many respects, than when we were fighting on the soil, which, by common consent, was designated the enemy's country. But they made no complaint, and, as the weather was warm, the suffering by this deprivation of usual shelter was reduced to a minimum. The Twelfth Corps, which somehow succeeded in evading the order about the trains, brought its hospital wagons up, and was thus enabled to carry on its hospital work more systematically.

On the 8th of August, 1863, while the Second Corps was

encamped near Morrisville, Va., guarding some of the fords of the Rappahannock, east of the Orange & Alexandria railroad, the following order was issued, assigning me to the charge of the First Division Hospital:

HEADQUARTERS SECOND ARMY CORPS,
August 8, 1863.

SPECIAL ORDERS,
No. 717.

Surgeon W. W. POTTER, 57th N. Y. Volunteers, is hereby detailed to the command of the hospital of the First Division, Second Corps, relieving Surgeon *George L. Potter*, who, on being thus relieved, will report to his regimental commander without delay.

By Order of BRIGADIER-GENERAL CALDWELL.

(Signed,) JOHN HANCOCK,
Assistant Adjutant-General.

I continued upon this duty until mustered out of service, and the remainder of this memoir will be devoted to an account of service in that capacity.

During the succeeding few months the army was engaged in a campaign of manœuvres, extending from Mitchell's Station back to Centerville, then out to the Rappahannock again; finally across the Rapidan to Mine Run, and thence back to Winter quarters, between those two rivers, with the headquarters of the army near Brandy Station. During this period, hospital work consisted chiefly in receiving and caring for the sick on the march, as we had comparatively few wounded to provide for, and we were practically an ambulance or flying hospital. In the retrograde movement to Centerville in October, however, the First Division, under General Caldwell, covered the rear the last day, October 14th, when there was some sharp work, culminating, just at nightfall, in the battle at Bristoe Station. During the day we were once or twice in precarious positions, our hospital train narrowly escaping capture at Auburn, in the early morning. I was obliged, also, on this occasion to provide for the cavalry wounded, besides my own, and, after the fight at Bristoe, all were taken to Centerville, where we arrived late at night. Being short of medical officers, I was compelled to make some urgent operations in the night, with only one surgical assistant; the hospital steward and nurses were, however, utilized to advantage, and all were cared for before morning. Next day all our wounded were sent to Fairfax Station for shipment to Washington, and we were again ready for the forward movement, which soon commenced.

All were cared for, did I say? No! Not all. One poor fellow, just returned from General Hospital, where he had been for months, was wounded that day by a shell, which shattered his right leg and left

forearm at one fell swoop. He was placed in an ambulance and brought up to Centerville that night, but he was so low from shock that we dared not remove him therefrom, and so fed him with brandy and beef stock in the ambulance until morning, a nurse being specially detailed for that purpose. When daylight came he was still too feeble to go upon the operating table, and so was watched and fed until the order came to move in the afternoon of the 15th. Something now must be done, the order to move was imperative, and the wounded were all loaded into the ambulances, to go to Fairfax Station. Hastily summoning the Medical Director of the Corps, Dr. A. N. Dougherty, of Newark, N. J., now deceased, we determined, upon consultation, that the only proper way was to amputate. One ambulance was kept to receive this man, and the others were allowed to depart en train to the railroad station. A shower had now arisen, and all shelter had been struck and loaded in the wagons, so, while four men held a rubber blanket over us for protection from the rain, I made the double consecutive amputations of his right thigh and left arm, and placed him in the waiting ambulance with a special nurse and stimulants, to follow the remainder of the train to Fairfax. He recovered and wrote me afterward from General Hospital in Washington. His name is Frank Rose, private Co. D., 57th N. Y. Volunteers, and the case is recorded in the Medical and Surgical History of the War of the Rebellion,—the arm amputation in Part II., surgical volume, p. 711, and the thigh amputation in Part III., surgical volume, p. 253.

This incident is mentioned to show the exigencies of the service, and how even extreme surgical emergencies must be subordinated to the inexorable demands of military necessities; and, further, to show how, even under the most unpromising conditions and adverse circumstances, surgical work may turn to success,—how lives on the field were sometimes snatched from the very jaws of death.

At the Mine Run affair, in the last days of November, we only employed the ambulance hospitals in the Second Corps, as we had but few wounded, and they, for the most part, were only slight cases. The weather was bitter cold, and the only comfort to be derived from the movement was its brief duration. On our return to the north side of the Rapidan, every one felt that campaigning was over for the Winter, and we soon settled into the hum-drum ways of every day camp life. Orders were soon issued for the preparation of more permanent hospitals, and a site was selected for those of the Second Corps in a piece of woods situated about a mile from Brandy Station, on the road to Stevensburg. Trees were felled, ground cleared, and tents pitched for the three hospitals of the corps, which were arranged

side by side in their numerical order, that of the First Division being on the right.

It so happened that within the lines of the First Division were two saw-mills, situated upon a stream that flowed along the camps, and which furnished the power to run them. They were immediately put in order by the Chief Quartermaster of the division, logs were cut and hauled by the soldiers, who enjoyed this diversion from ordinary military duties, and, by working the mills night and day, sufficient lumber was soon obtained to make the cantonments of the entire corps very comfortable. The hospitals received the first supply, next the enlisted men, and lastly, the officers; so that by the middle of January, 1864, the camps began to assume quite a home-like air.

The hospitals were laid out in streets, with a double row of tents on each side, facing inwards, and the quarters of the Surgeon-in-Charge located at the head of the street, facing south. A separate cot was provided for each patient in this wise: four crotched posts were driven into the ground, one at each of the four corners of the bed; a firm stick rested in the crotches across the head and foot, on which were placed small springy poles cut from straight saplings, extending lengthwise of the bed, and as close together as they could lie; a bed-sack filled with straw, a pillow, warm blankets, and clean white sheets, served to equip a very comfortable bed. The aisles, as well as the spaces between each cot, were floored; spacious fire-places were constructed in the rear end of each ward; and sidewalks built on both sides of the streets, and elsewhere about the camp, as convenience required. This may seem, as described, a crude and rough place for the care of the sick, to one not familiar with army life; but civilians, who visited these hospitals, were surprised and gratified to find them both cheerful and comfortable. It was, moreover, a matter of experience that recoveries were more prompt, not to say more certain, when the soldiers who were disabled by curable diseases, were treated in field hospitals, surrounded by comrades who had a personal interest in their welfare, and ministered unto by their own surgeons. The hygienic surroundings, too, were usually superior to those of large general hospitals, and, besides, the sick treated in tents have an incomparable advantage in being able to obtain plenty of fresh air without the dangers of a draught. [See illustrations.]

A special supply of fresh oysters, milk, and crackers, brought daily from Washington, together with other obtainable comforts and luxuries, contributed much to the welfare and contentment of the sick; while the presence of a bright, cheery, and faithful woman nurse,[1]

1. Miss Cornelia Hancock, who also rendered good service afterwards in the base hospitals at Fredericksburg and City Point. This deserving woman has rendered distinguished service on several occasions during dire disaster since the war—notably, at Charleston, S. C., after the earthquake, and more recently at Johnstown, Pa., after the flood.—W. W. P.

INCIDENTS OF THE WAR.

THIRD DIVISION HOSPITAL, SECOND ARMY CORPS, NEAR BRANDY STATION, VA., SURGEON F. A. DUDLEY, IN CHARGE.

From a Photograph by A. Gardner, Washington, D. C., taken in March, 1864.

who also presided over the special diet kitchen, aided not a little to make the service of the hospital more effectually successful. The wounded from Morton's Ford, February 6, 1864, instead of being sent to Washington after the first attention, were distributed to these three division hospitals, where all the operations were made, and where they were kept until recovery or other termination of the cases occurred.

Early in January, 1864, General Meade issued orders permitting officers who so desired, to invite their wives, mothers, or sisters, to visit the army for a limited period and something like 4,000 ladies availed themselves of this privilege, during the Winter and early Spring. A large music hall was built at General Caldwell's headquarters, (First Division, Second Corps,) which was in almost nightly use for concerts, hops, lectures, and other social gatherings. Grace Greenwood (Mrs. Lippincott) paid us a visit during the course of the season, and favored us with three or four of her characteristic "talks," which always bristled with wit, wisdom, and genuine loyalty. The frequent visits of many of these ladies to the hospitals, and their kind and cheery words to the sick, will long be remembered by both those who were the recipients and those who witnessed their beneficial effects, as a bright oasis in the desert-like expanse of war's dreadful arena.

In the latter days of April the unrecovered sick of the army were sent to Washington, surplus baggage and camp equipage sent to the rear, and everything put in readiness for an active campaign, which actually began on the 3d of May. The campaign equipment of the First Division Hospital consisted of twenty-two hospital tents, forty-three ambulances, fourteen army wagons to carry supplies, and five Autenreith medicine wagons. We had thirty-six hospital attendants under charge of a ward-master, a chief hospital steward, and a chief cook. Other hospital stewards, nurses, cooks, and attendants were supplied as occasion required.

The organization of the hospital staff, at the opening of the campaign, was as follows:

Surgeon W. W. POTTER, *57th N. Y. Volunteers*, In Charge.
Surgeon CHARLES S. HOYT, *39th N. Y. Volunteers*, Executive Officer.
Assistant Surgeon P. M. PLUNKETT, *2d Delaware Volunteers*, Recorder.
Lieutenant BURKHARDT, *66th N. Y. Volunteers*, Acting Assistant Commissary of Subsistence.

Dr. Plunkett was mustered out July 2, 1864, by reason of expiration of term of service, and his place was filled by the appointment of Assistant Surgeon J. C. Norris, 81st Pa. Volunteers. The division

consisted of four brigades—one more than the usual number—and, consequently, our necessities were proportionately larger in the way of hospital equipment. Each brigade was allowed one medicine wagon of the Autenreith pattern, and I had one for my own operating uses, in which I also carried supplies to issue to the others in case of emergency, making five in all, as I have above stated.

During the Winter, Dr. Letterman had been, at his own request, relieved from duty as Medical Director of the Army of the Potomac, and Surgeon T. A. McParlin, U. S. A., appointed in his stead. Dr. McParlin proceeded to carry out the wise provisions of his predecessor's administration, and his orders at the opening of the campaign evinced a knowledge of the magnitude and responsibilities of his position, which gave him, at once, the confidence and support of the medical staff of the army, and which strengthened as the campaign progressed.

In the battle of the Wilderness, where we remained from the 4th to the 7th of May, we obtained native ice the first day, taken from an ice-house near the lines, which General Francis C. Barlow, then commanding the First Division, with his characteristic thoughtfulness for the welfare of his wounded, ordered seized and sent to the hospital. From this time until we reached the lines before Petersburg, we had liberal supplies of native ice wherever we established our hospital.

We moved towards Spottsylvania on the night of the 7th; were at Todd's Tavern on the 8th and 9th; at the River Po on the 10th; and at Spottsylvania from the 11th to the 19th. The hospital was located near Cossins's from the 11th to the 14th, where its capacity was taxed to the uttermost, more than 1,000 wounded having been received before noon of the 12th. General Barlow sent the Division band to the hospital on the 13th, to give a concert for the wounded, which cheered the men very much, as it was the first music we had been permitted to enjoy since crossing the Rapidan. The wounded of the Second Corps were sent to Fredericksburg on the 11th and 13th, numbering at both shipments 2,923, in 133 ambulances, and 258 army wagons. The First Division Hospital sent 450 on the 11th; and had still 950 for shipment on the 13th. We spent most of the night of the 13th in this work, and after exhausting all our transportation, both ambulances and army wagons, daylight found us with about 200 still on hand.[1]

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1. This was, indeed, a most trying night, and the permanent staff could be seen, with lanterns in hand, superintending the loading of the wagons during all those weary hours, with the mud over-foot, and the rain still falling. I presume Dr. Hoyt, the then Executive Officer, who is now Secretary of the New York State Board of Charities, should his eye meet this, will remember the occasion vividly. General Francis A. Walker, Assistant Adjutant-General of the Second Corps, who was then an inmate of my own tent, as a guest for a week, by reason of an injury received on the morning of the assault at the salient, May 12th, will, I am sure, recall the scene.—W. W. P.

The movement of the corps to the left, during the night of the 13th, uncovered our position at Cossins's, and rendered a like movement of the hospital necessary; so we left the remaining wounded, supplied with the necessary medical officers, rations, and hospital supplies, to fall into the enemy's hands.[1] I left the place on the 14th, after completing all arrangements for their care, and soon after my departure the enemy's cavalry, under Rosser, came in, capturing all hospital attendants who wore no distinctive badge, and carrying off the greater part of the rations which had been left for the wounded. The Confederate wounded, who were left behind, were also removed to their own lines by the troopers. A force from the Second Corps was sent to drive away the marauders, but they were off before our troops arrived. Sadly enough, Surgeon Thomas Jones, 8th Pa. Reserves, left with the wounded of the Fifth Corps, similarly abandoned, was killed by one of our own soldiers, who, in the darkness, mistook him for a guerilla. On the 16th, just at evening, a train of ambulances, protected by Gibbon's Division, went to Cossins's and brought in the wounded from all the abandoned hospitals, together with the stores, tents, and attendants still remaining. After being fed and dressed, the wounded were sent to Fredericksburg.

At Cold Harbor, the Tyler House[2] on the left was first selected as our hospital site, but, as the military authorities deemed it unsafe, the tents were pitched in a field farther to the right, near army headquarters. Here we remained during the heaviest part of the battle, from the 2d to the 4th of June, where we cared for more than 1,000 wounded in our hospital. The dead bodies of three brigade commanders were brought to the First Division Hospital here, viz.: Colonel O. H. Morris, 66th N. Y.; Colonel H. B. McKeon, 81st Pa., and Colonel Peter A. Porter, 8th N. Y. H. Artillery, where they were embalmed and sent North. Colonel McKeon fell between the lines, and his body could not be recovered until after night-fall, when volunteers were called for, who brought it off.

On the 5th we moved the hospital to the Tyler House, where it was originally intended to establish it, the lines now having been sufficiently extended to protect that position. We were now about two miles from Gaines's mill, the scene of Porter's great battle of two years before, which was now within the enemy's line. Here the tents were pitched on a beautiful lawn facing an avenue of locusts of ancient lineage, leading from the road to the house, a distance of some twenty rods. The Recorder's office, hospital commissary, and

1. This was done under orders from army headquarters.—W. W. P.
2. The property of the late Dr. Tyler, a relative of ex-President Tyler. The owner died two years before, while the army under McClellan was occupying the Cold Harbor region.—W. W. P.

officers' mess were established in the house, which afforded conveniences for these important departments, so essential to the successful conduct of our hospital. A well-filled ice-house supplied us liberally with ice during the week we remained there, but it was completely emptied by the end of that time. Our mess was made up of the members of the permanent staff of the hospital, the five ambulance officers of the division, and the hospital commissary of subsistence; and during engagements I always invited the operating staff to join us, which they gladly did, as their own messes were temporarily disrupted. There was always a unity of feeling between the hospital staff and the ambulance officers in the First Division, and each department enjoyed the confidence and received the support of the other.

On Sunday, June 12th, preparations were made for the movement to the James river. The sick and wounded were sent to White House, the hospital packed up, and by night-fall we were on our way to participate in the plan recommended by McClellan in 1862, which the army was about to take up, namely, to attack Richmond and the rebel host from the South, via Petersburg. Fifteen ambulances and one medicine wagon accompanied each division; the remainder of the hospital train, consisting of ambulances, medicine wagons, and army wagons joining the supply trains and moving with them. The James river was crossed on a pontoon bridge, at Wilcox's landing, near Fort Powhatan.[1] The supply trains, having in some manner obtained the right of way over the bridge, delayed the crossing of the medical train from early morning until late in the afternoon of the 16th, so that it did not reach the front until between nine and ten o'clock that night. Meanwhile, a battle was in progress, the Second Corps having made an assault at six o'clock in the evening, and Medical Director Dougherty had selected sites for the hospitals; but nothing further could be done, excepting to prepare the ground and build arbors, until the wagons arrived. This was the first time during the campaign that the hospitals had not been fully prepared for the reception of wounded in advance of the necessity, and this was without fault of the medical department. Tents, however, were pitched, the wounded brought in, food prepared, and serious cases attended to; the hospital staff, ambulance corps, and attendants working hard all night with energy and alacrity for humanity's sake. By noon of the 17th, the First Division Hospital had received over 1,000 wounded, the third time this had happened in a single day since the opening of the campaign, the two other instances having been at Spottsylvania and Cold Harbor.

Mrs. General Barlow, who had been with us a few days at the

1. The river is nearly a mile in width at this point.—W. W. P.

Tyler House, visited us again at this point, and was kept busy in preparing milk-punch, which she administered to the wounded with her own hands. This philanthropic woman yielded up her life to her country's cause, breathing it out a month hence, from fatal disease contracted in her efforts to alleviate the suffering of wounded soldiers. The campaign thus far had been almost a perpetual battle from the Rapidan to Petersburg, taxing the energies and endurance of the medical staff and the ambulance service to an extreme degree; but they had not been found wanting, and, notwithstanding the unusual hardships of the campaign, had met every demand made upon them in a spirit of cheerful obedience to duty, and with a promptitude amidst many difficulties that were, oftentimes, well-nigh overwhelming. I would not wish to make, at this time, invidious distinctions where all worked so well and faithfully, but a few men, besides the hospital staff proper, were a tower of strength to me during this trying campaign. The never-tiring and always amiable Medical Director of the corps, Dr. A. N. Dougherty, was ever ready with advice and timely aid; General Francis C. Barlow, a martinet in discipline and a brave and capable field commander, always manifested the kindliest interest in the hospital, granting every request consistent with military exigency to render it efficient; Dr. D. H. Houston, Surgeon-in-Chief; Dr. J. W. Wishart, Chief Operator, and Dr. A. Vander Veer, Surgeon of the 66th N. Y. Volunteers, were among my confidential advisers and able coadjutors in the work. These, and others whom I should be glad to mention by name, did space permit, contributed in an inestimable degree to whatever of success my administration of the First Division Hospital may have attained.

The operations before Petersburg soon began to partake of the nature of a siege, and the hospitals, likewise, began to assume a more permanent mien. At the Burchard House, on the Norfolk & Petersburg stage road, where the First Division Hospital located itself sometime in July, ovens were built, cots erected, and many of the comforts of Winter quarters provided. Purchases of fresh fruits, vegetables, eggs, milk, etc., were made from the hospital fund; ice was obtained from City Point, and many other luxuries were likewise added to the ordinary army supplies that served to improve the efficiency of our work. A portion of the family, with a few servants, still occupied the house and premises, but Mr. Burchard himself, who was the father-in-law of the Confederate General Dearing, was absent in Petersburg, whither he went with Mrs. Dearing just before our forces appeared. The establishment of our lines on the 16th of June cut off his return, and he was thus compelled to remain away until Petersburg fell, in April, 1865.

Several expeditionary movements were made by the Second Army Corps, while the Army of the Potomac was besieging Petersburg. One of the first of these was to Deep Bottom, on the James river, which began on the evening of July 26th, and which had for its objective the diversion of a sufficient force of the enemy away from his works to enable the Ninth Corps to make an assault, with increased chances of success, after the explosion of its famous mine, that was now about completed. Another object in the movement was to attack Richmond from the north side of the James river, in case it should be found feasible to do so. The first division took fifteen ambulances on this expedition, and sufficient material to conduct a flying hospital. We crossed the James river before dawn, on the 27th, and captured a battery of four twenty-pounder Parott guns at sunrise. We remained in observation until the dark of the 29th, when our wounded were shipped by steamer, and the corps returned to the Petersburg lines in time to witness the explosion of the mine on the morning of the 30th, though, happily, none of our troops were engaged in the assault.

We reëstablished our hospital at the Burchard house, where we remained until the 12th of August, when we once more moved to Deep Bottom. The hospital train crossed the river on the same bridges as before, and established itself on the north bank. Here we remained from the 14th to the 20th of August, during which time there was much spirited fighting, and we had many wounded to care for, among whom was Captain James C. Bronson, 57th New York Volunteers. Captain Bronson was doing staff duty with the Third Brigade, when he received a wound of the right forearm that rendered amputation necessary. I cared for him in my own quarters from the 14th to the 20th, when we were ordered to ship our wounded by steamers, and again prepare to retrace our steps to our old position. The morning of August 21st found us once more at the Burchard house, but we moved the same day to the left, to assist Warren's Fifth Corps in securing the Weldon railroad, and finally brought up, on the 25th, at Reams' Station. The 26th found us still again at the Burchard house; and this time we remained comparatively quiet for some time. The movement to Hatcher's Run, in October, temporarily disrupted the hospital, but it was again established at the Burchard house, and substantially occupied that site during the late Fall and Winter, even until the final campaign, in the early Spring of 1865.

Colonel James A. Beaver,[1] 148th Pa., who lost a leg at Reams' Station, August 25th, was quartered in this house until his recovery. After the amputation, which was made in the temporary hospital on

1. Afterward Brevet Brigadier-General U. S. Volunteers, and now Governor of Pennsylvania.—W. W. P.

the field, he was brought hither on a stretcher, a distance of over eight miles, by a detail of sixteen men.[1] Here he was faithfully nursed by Miss Gilson, niece of the Hon. Mr. Fay, of Chelsea, Mass., a prominent member of the United States Sanitary Commission. Mr. Fay, himself, was also a frequent visitor to the hospital, contributing time and means to the alleviation of the suffering sick and wounded, here and elsewhere throughout the army.

Both the Sanitary and Christian Commissions rendered efficient service to the hospital inmates during the overland campaign, as well as at other times, furnishing supplies of lemons, oranges, shirts, drawers, and other useful articles, besides rendering personal attention to individual cases, writing and mailing letters, and doing a variety of other work which cannot be specified, but which economized the time of the already overworked medical staff and attendants, on many occasions.

The large depot hospitals established at Fredericksburg, Port Royal, White House, and City Point, under the charge of Surgeon E. B. Dalton, U. S. Volunteers, were an important part of the hospital system of the Army of the Potomac, and are worthy of more than a passing reference; so, too, of the railway and steamboat transportation of the wounded; but this article has already reached its limits, and the distinctive features of field-hospital service which was its purpose to present, have already been set forth.

From the 3d of May to the 19th of September, 1864, the First Division Hospital register contained the names of between 7,000 and 8,000 sick and wounded, who had been cared for during that period. Many of these were slight cases that recovered in a few days, more or less, and were returned to duty. If they had been at once sent beyond the Field Hospital to the General Hospitals, in the North, they would not have returned for several months, if at all. In this way, alone, the division system of hospital organization exhibited an economic value of no mean proportions.

The post of the surgeon in action has erroneously been supposed by many to be free from danger. The records of the Surgeon General's office, at Washington, show that during the late war thirty-two medical officers were killed in battle, or by guerrillas, or partisans; nine killed by accident; and eighty-three wounded in action, of whom ten died. This is believed to be a casualty list proportionately larger than that of any other staff corps. Three medical officers were killed at the battle of Antietam, one of whom, Surgeon W. J. H. White,

1. A similar service was rendered to General Sickles, at Gettysburg, the same night of the amputation, July 2d. A detail of forty soldiers carried him to Westminister, a distance of twenty-five miles. I have no doubt both these lives were saved by this expedient.—W. W. P.

U. S. A. Medical Director of the Sixth Corps, was the first officer killed in Franklin's command in that battle. On the 10th of May, 1864, at the engagement at the River Po, Surgeon A. N. Dougherty, U. S. Volunteers, Medical Director of the Second Corps, than whom there was no braver or more efficient officer in the medical staff of the army, was wounded by a shell while superintending the affairs of his department. These instances are cited to show that even medical officers of the higher grades were often exposed to the greatest dangers.

As an interesting final fact, showing the importance of the care of the sick and wounded of an army from another standpoint, it is ascertained from carefully compiled financial tables, also derived from the Surgeon General's office, that the total money cost of the maintenance of the Medical Department of the army from 1861 to 1865, exclusive of the salaries of officers, was something over forty-seven and one-third millions of dollars. Surely a republic that dealt so generously with its soldiers who suffered from the casualties of war in its defense, cannot justly be charged with neglectfulness, indifference, or ingratitude.

284 FRANKLIN STREET.

SOME ACCIDENTS AND COMPLICATIONS INCIDENT AND SUBSEQUENT TO ABDOMINAL AND PELVIC OPERATIONS.[1]

By JOSEPH HOFFMAN, M. D., Philadelphia, Pa.

THE time is come to acknowledge that the successes of abdominal and pelvic surgery are bounded and measured by the ability to master their complications. The field of gynecic surgery to-day is plowed and harrowed by as restless and motley a throng as ever surged upon the Pacific slope for gold. Too often their zeal is not for earnest work, but for local renown. They would build a tower to make themselves a name. The end must be confusion and complaint. These are troublesome times for abdominal surgery and surgeons. They have their way to make and sustain both against the inherent difficulties of their work, and against the failures of those who insist on "opening the abdomen because it is easy." For this condition of matters abdominal surgeons are, for the most part, to blame, by reason of ill-advised expression as to the difficulty of the work. When Mr. Tait says in effect that the removal of the entire pregnant uterus is an easy matter that

1. Read at the annual meeting for the American Association of Obstetricians and Gynecologists, at Cincinnati, O., Sept. 18, 1889.

every country surgeon should be ready to perform, it is unnecessary further to explain this point. It is easy with special training in the technique of abdominal surgery, but most difficult without this. So it is in all the varieties of pelvic and abdominal work. The removal of an organ is often the least part of the operation. The attention to the minute details that alone can bring success to the operation, is only attained by long and careful training. It has been asserted that the operation is nothing, that the after-treatment is the most important consideration. My own experience is diametrically opposed to this assertion. Prolonged treatment after abdominal section should be nearly or quite as rare as repeated operation upon the same patient. In a majority of instances, the man who operates two or three times upon the same patient for the same allied affection, has operated carelessly or inefficiently at first, and will probably do the same at last. This is the man who will find prolonged after-treatment necessary, and who probably considers the operation itself of secondary importance. Let us start, then, with the idea that the operation is a serious undertaking, to be seriously performed, after serious consideration; we are to remember, at the same time, that what appears the simplest may eventuate in the most complicated condition, and that herein the necessity for careful preparation in all that belongs to abdominal or pelvic surgery is the *sine qua non* of assured success. A knowledge of what may happen is the best protection against misfortune, and the factor of the extreme simplicity in the work of the best surgeons.

The accidents and complications must, of course, vary according to the organ dealt with or the nature of the operation. In the presence of adhesions we may have hemorrhage or intestinal rupture. These are most apt to occur in long-standing pelvic inflammations, and in extra-uterine pregnancy. Case XXVI. of my series well illustrates both these complications. Extrauterine pregnancy with pyosalpinx produced a complication as hard to describe as to recognize. The intestine was torn off too low to bring the ends out for artificial anus, while the hemorrhage was such that the pelvis was packed to control it. The packing remained for sixty hours, when it was removed without return of the bleeding. The intestine was carefully sutured deep down in the pelvis, and, strangely enough, in the face of the extreme difficulty of this procedure, the woman recovered without fecal or other fistula. The case brings out the necessity of exact knowledge of intestinal suturing, and the importance of packing in pelvic hemorrhage. Half-way measures in these and similar cases must always result disastrously. In gonorrheal disease of the tubes and ovaries where the disease was of long standing, there is frequently found such

a degeneration of the tissues that it is impossible to make an ideal stump or button for safe tying. Luckily, here, as in other degenerations, the blood-vessels are the last to yield their integrity; and when they are intact, though the stump is not ideal, the hemorrhage can be controlled. Case XXII. is a typical illustration of this condition in its extremity. The tissues were so rotten that the ligature cut through broad ligament, vessels, and all. The cornu of the uterus was curetted and the ligature applied directly to the uterine tissue. The degeneration of tissues, such as is here referred to, is not uncommon in all cases of pyosalpinx, whatever their origin. The importance of curetting away the diseased parts cannot be too strongly urged as the most important step outside the line of ordinary procedure. A complication of pelvic surgery, always vanquishing the neophyte and taxing the ingenuity of the experienced, is the tying off of rudimentary appendages, (Cases XXIV. and XXVII.,) at the bottom of the pelvis. Nothing is easier than to tie off the normally developed tube and ovary; but when these lie at the bottom of the pelvis, almost entirely bound down in its peritoneum, to tie them off—done, as it must be, by the ends of the fingers, through an incision two inches long—requires an amount of manual dexterity only attained by much and patient endeavor. Now, as the application of the ligature may greatly complicate and delay the operation, so slipping may give rise to greater trouble. After careful tying, the greatest safeguard against slipping is the leaving of a generous button. There is no necessity for complicated knots with fancy names. The ordinary surgeon's knot, applied as it should be, will never fail to hold.

The more deliberately the tying is done, thereby affording brief time for shrinkage, the less likely is oozing to occur. The smoother the ligature, the better it will tie. For this reason I prefer cabled to braided silk.

In deep pelvic surgery there is constant danger of wounding the ureters. This, in the present status of our knowledge, involves a most serious procedure—the removal of the corresponding kidney. There is open here a wide field for vivisection experiment, to ascertain with what anatomical and physiological success the ureters can be grafted into the intestine. If this can be successfully done in the human being, another important stride in surgery will have been taken.

The presence of dense adhesions, especially visceral, and the consequent hemorrhage, for a long time baffled the best attempts of the surgeon. Clots and débris of every description found their way and remained in every nook and cranny of the peritoneal cavity, from diaphragm to pelvic floor. These could not fail to do infinite harm,

and the drainage-tube was entirely inadequate to remove them. This is, indeed, no easy task. As ordinarily attempted with the syringe, it is often unsuccessful, because the current of water is not strong enough to find egress with sufficient momentum to bring away the particles—often, indeed, masses—of lymph and clot. At the present, the gravity tube gives the best method of thorough cleansing. The water is poured into a funnel elevated according to the effect desired, while the other end, fitted with a nozzle, is directed all over the peritoneal cavity, under the broad ligaments, mesentery, liver, spleen, and, in fact, everywhere that clot can lurk. The free drenching or flooding of the abdominal cavity need not be feared; the heat is an important desideratum in relieving shock. I have constantly employed it, even where drainage was afterward found unnecessary, and have yet to find a single bad result. This has also been the experience of my friends who operate more frequently than myself. Operation with existing pregnancy is a complication not much referred to. It is, no doubt, frequently met, and just as frequently concealed. In one such case, I have operated to save life. The woman did not think herself pregnant, was suffering from symptoms of peritonitis, belly tympanitic and tender, had high fever, and I felt, as I delayed operation a day or two, while I tried, without success, to relieve her with salines and external applications, that I was treading upon dangerous ground. Operation revealed general pelvic peritonitis, with pus in the tubes. The uterus was enlarged, which previously was in doubt, owing to the size and distension of her belly. Three days later, the patient miscarried, her pain, in the meanwhile, being controlled with morphine and atropine. She recovered, and is now among the best of my results. It is evident that, in cases such as this, the tying of the ligatures is an important consideration, owing to the increased strain put upon them, both by uterine contraction and abdominal tension. I believe, in these cases, morphine or other anodyne is of distinct advantage. Here I met also another complication. The unrest of the patient, before I put her under anodynes, was so great and violent that the drainage-tube was displaced. I felt there was need of it, owing to the extreme inflammation, and tried to reintroduce it. In this I failed, and had to remove it. For a day or two, the symptoms were urgent, and I made preparation to reopen and drain, but, happily, under free purgation, she became comfortable, and this was unnecessary. This was Case XIV.

The careful disinfection of suspicious tubes, before the stumps are allowed to drop, is a step, I am convinced, should never be omitted. I believe that a failure to do this in one of my cases, apparently

very simple, was the cause of peritonitis and death. A previously induced abortion, of which I was ignorant at the time, was, I believe, the immediate cause of the sepsis.

Among the immediate post-operative complications, peritonitis was, until lately, reckoned as most likely and most fatal, excepting, perhaps, hemorrhage. This is, in great measure, no longer true. Peritonitis must be distinguished from simple serous exudation. This latter is the result of simple exudation from wounded capillaries, broken-down adhesions, or even, perhaps, from the sometimes necessarily rough handling of the peritoneum. In the absence of specific cause, this, if drained away, does not cause peritonitis. Hence the philosophy of draining, both to remove possible pabulum for infection, and to take away the serum which hygroscopically attracts fluids by its presence. It is a physical law that moisture attracts moisture, and in the abdomen there is no exception to the rule. Where chemical antisepsis is used, there is greater liability to this serous exudation. There is thus also greater danger of post-operative visceral adhesions. This is illustrated in Case VIII. The patient had before been operated upon for uterine fibroid. A drainage-tube was put under the care of her husband, and the abdominal cavity washed out with carbolic solution, of whose strength I am ignorant. When the abdomen was opened, the intestines were found matted together and out of all natural position.

The transverse colon was adherent to the old incision. The remainder of the colon, almost throughout its whole length, was adherent to the other viscera. To free them, nearly all the intestines had to be handled. No other cause for this condition need be sought than the free use of carbolic acid.

That the saline or calomel treatment of serous exudation is of undoubted value after operation, does not admit of dispute. It is just as clear that it excels all other remedies. This is at least true so far as abdominal surgeons are concerned. It has now been so long insisted upon that it is an old story, and were it not that general practitioners fail to appreciate its value, for the most part, its mention here would be superfluous. Case XXIX. in my list is indisputable evidence of the value of this treatment. The condition of the woman was such that after all preparation for operation had been made, by the advice of Dr. Joseph Price, I postponed operative interference. The woman's pulse was thready and frequent, her belly tympanitic and tender, with every evidence of peritonitis. I at once put her on the mercurial treatment, administering a grain of calomel every hour, until twenty-four grains had been taken, stimulating her at the same

time. The result was a complete subsidence of the acute symptoms and a vast improvement in the pulse-rate, and after a few days I operated. The peritonitis was general, and of a virulent type, the tubes being full of pus. After rather a tedious convalescence, she recovered. Her only inconvenience now is a fistula, through which a ligature has lately escaped. This, I think, is owing more to her condition at the time of operation. Her bodily condition was such that none of the stitches held, the abdominal incision falling apart, and the entire wound had to heal by granulation.

This brings us in sequence to the consideration of fistulas. The drainage-tube is often charged with producing this complication. I can readily understand how this may be the case, especially in the causation of fecal fistula, where the tube is allowed for a long time to make harmful pressure upon the intestine. I believe, however, that, in a great majority of cases, the fistula has its origin in the ligature applied to the pedicle, or in a systemic vice. One of the most annoying fistulas I ever encountered occurred in Case XXII., where no drainage-tube had been used at all. In the course of time it healed, and the incision is now perfect. In another case, just now closing, the operation was for the removal of the appendages, after a puerile attempt by another to hold the uterus in position by stitching it against the abdominal wall, while the ovaries were bound down by adhesions. The persistence of the fistula here, Case XXIII., may be due to incision through the cicatricial tissue. I am certain I can give no other reason. For fecal fistula, except where the bowel is extensively injured or deeply torn, without chance of suture, I think there is little excuse. Carelessness in examining the intestine after extensive breaking up of adhesions, or careless tying and omental inclusion, are perhaps generally at the bottom of the calamity. A tedious closing of an incision, I do not regard as a misfortune. It keeps the patient longer on her back, thus favoring more solid cicatrization, and diminishing the chance of that other reproach of abdominal surgery—hernia. This accident I have never had to occur primarily. It exists in two of my cases, but it was present at the time of operation. In fact, in Case II., the operation was done to relieve strangulation, after the woman had vomited immense quantities of fecal matter. Her belly was, and is, enormous, and though she has never had trouble since her operation, a large hernia still exists. Certain it is, that no drainage-tube was the cause in this case. In a discussion of this subject, Mr. Skene Keith, some time since, reported the accident occurring in some cases, all of which had a short incision. He argued that, apparently, the short incision favors the complication, because of all the abdominal tensions

being directed to a small, weak cicatrix. The fallacy lies in supposing that a long weak line will be stronger than a short weak line of incision. If the line is short, the mass of intestine able directly to impinge upon it, is correspondingly less. I cannot see that the law of hydrostatic pressure applies mathematically in the abdomen. My own experience contradicts this presumption, as does also that of many of my fellow-operators. From my own observation, I entirely believe in the correctness of Price's view, that three causes contribute most hernias, to-wit: imperfect suturing, in which the abdominal tissues are not brought into proper juxtaposition; too early rising after operation; and the too early abandonment of the abdominal supporter. To these may be added as a cause, the very long incision.

Reoperation brings with it its own peculiar complications. Usually these are in the form of adhesions. This has been the condition in three of my cases, IX., XX., and XXIV. In all of them, adhesions were present between the intestines and the abdominal cicatrix. This evil is best avoided by a careful bringing down of the omentum in front of the intestines and under the incision, before closing it. This is a point too often neglected. A complication, the cause of which is, for the most part, at the present only guessed at, and alike worrysome to both patient and surgeon, is post-operative hemorrhage. In most cases the patient, after the removal of the tubes and ovaries, is encouraged to believe that her hemorrhages, whether catamenial or otherwise, will cease. Everything goes on according to promise, until suddenly, from three to six months after the operation, hemorrhage occurs, to the fright of the patient and the disgust of the surgeon. This has happened in a number of my cases. The cause is still a matter of conjecture, hyperplasia of the intra-uterine mucosa being apparently a factor in most cases. Why this should supervene is not clear.

Curetting, hot douches, and iodine are efficacious in some cases, while in others the bleeding continues at various intervals. A rational explanation of this condition is much to be desired. Under this head I do not mean to include hemorrhage from malignant degeneration.

With this brief consideration of some of the difficulties of abdominal section, it would appear clear that operation is not a matter of routine, but rather of inspiration. Each separate case is a study of itself, and its complications a separate study. Successful operation means first a study of details; after this, careful observation and a gradual comprehension of principles. No operator of the present day has a right to start out with a mortality of ten years ago. No man has a right to record a death because he does not know how to tie a

ligature. Operators are required, but only those are fitted to operate who are content to study principles and learn to apply details under efficient direction.

Appended is a table of all my cases to date, a study of the individual operations of which has afforded the subject-matter of this paper:

No.	Date.	Diseases.	Result.	Drainage.
1	July, 1886	Cirrhotic tubes and ovaries	Recovery.	
2	Sept. 4, 1887	Strangulated ventral hernia	"	
3	May 15, "	Suppurating appendix; hematoma	"	Yes.
4	May 21, 1888	Ovarian and tubal adhesions	"	
5	June 8, "	Septic salpingitis	Death.	No.
6	June 30, "	Double pyosalpinx	Recovery.	Yes.
7	July 22, "	General adhesions of tubes and ovaries	"	"
8	Aug. 3, "	Ovarian, tubal, abdominal, and pelvic adhesions	"	"
9	Aug. 14, "	Occluded tubes	"	
10	Aug. 16, "	Ovarian and tubal inflammation	"	
11	Sept. 23, "	Adherent tubes and ovaries	"	
12	Sept. 23, "	Double pyosalpinx	"	Yes.
13	Sept. 27, "	Papilloma; exploratory	"	"
14	Sept. 30, "	Pyosalpinx; pregnancy	"	"
15	Oct. 17, "	Double pyosalpinx; ovarian	Death.	"
16	Oct. 24, "	Omental hernia	Recovery.	
17	Oct. 25, "	Exploratory	"	
18	Nov. 5, "	Salpingitis and ovaritis	"	
19	Nov. 9, "	Ovarian cyst; salpingitis	"	
20	Nov. 25, "	Adhesions to old incision	"	
21	Dec. 8, "	Salpingitis; ovarian hypertrophy	"	
22	Dec. 18, "	Double pyosalpinx	"	Yes.
23	Feb. 17, 1889	Adhesions, salpingitis, ovaritis	"	"
24	Feb. 23, "	Dermoid, infantile uterus	"	
25	March 6, "	Cyst and salpingitis	"	
26	March 17, "	Extra-uterine pregnancy and pyosalpinx	"	Yes.
27	March 19, "	Ovaritis; adhesive rudimentary tubes and ovaries	"	
28	March 29, "	Chronic salpingitis	"	
29	April 5, "	Double pyosalpinx	"	Yes.
30	April 12, "	Dermoid cyst	"	"
31	April 19, "	Chronic salpingitis	"	
32	May 19, "	Ovarian cyst	"	
33	June 1, "	Chronic salpingitis	"	

Examination of the figures shows that the drainage-tube was used in thirteen cases, or in about forty per cent. of all operations. Had it been used in another case, I believe I would have one fewer death to record. No hernias have occurred.[1] All the patients operated upon are alive but four, two having died since operation. The others are all able to attend to their household duties, save one or two. No patient is worse for her operation, unless I am ignorantly in error.

1. Since writing the above, I have discovered one hernia.

The number of deaths is two; one patient dying of sepsis the tenth day after the operation; the other never rallied, and died of shock. In the last twenty-eight operations one death occurred. In the last eighteen cases all recovered.

The complication that has been most annoying is post-operative metrorrhagia.

126 West Diamond street.

CONSTIPATION: ITS CAUSES, CONSEQUENCES, AND RATIONAL TREATMENT.[1]

By DeLancey Rochester, M. D., Buffalo, N. Y.

I have chosen this so hackneyed a subject because I believe that a neglect to inquire into the state of a patient's bowels is a common cause of mistaken diagnosis, and, therefore, of mistaken treatment; and that if every one took pains to have a proper evacuation of the bowels every day, there would be far fewer cases of so-called general debility, nervous prostration, etc., that are so prevalent at present.

The causes of constipation are very numerous, but may be classed under three general heads, viz.: First—Conditions which obstruct the normal channel; Second—Too great dryness of the contents; Third—Variations in the functional activity of the motor apparatus, muscular or nervous, producing imperfect peristalsis.

Under the first head, conditions which obstruct the normal channel, we have (*a*) constriction of the gut from stricture, the result of former disease, such as dysentery, ulceration, colitis, etc.; (*b*) tumors, whether within the bowel or pressing on the bowel from outside; (*c*) volvulus; (*d*) invagination; (*e*) occlusion in hernial sac; (*f*) inflammatory exudations around gut; (*g*) congenital absence of anus.

These conditions are all of a more or less acute character, or are such that constipation is only one of the less prominent symptoms, and all require surgical interference for recovery. As that is not the class of cases which I wish to take up this evening, I will dismiss them without further remark.

The second condition mentioned—too great dryness of the contents of the bowel—is a very common cause of constipation; it may be due to (*a*) too little water in the diet, (*b*) diminution of digestive secretion, especially of the bile, or to (*c*) the excessive removal of fluid by other organs, as by the skin in profuse sweating, the kidneys in polyuria, whether of diabetic or other origin, or by the breasts in nursing mothers.

1. Read before the Buffalo Medical and Surgical Association, October 1, 1889.

The third condition—functional derangement of the motor apparatus—may be due to (*a*) affection of the chord or brain, in which case it is, of course, only one of the less prominent symptoms; or to (*b*) inflammations, degenerations, chronic catarrh, etc. ; or to (*c*) lack of proper regular exercise of the parts.

I have scheduled the causes in this manner for purposes of ready reference in speaking of the remedial measures to be employed in overcoming the constipation.

However, before passing to that part of the subject, I wish to make a few remarks on some of the consequences of constipation.

Whatever the cause of the constipation, we have as the first result an accumulation of the fecal matter in the large intestine, from which the watery portions are rapidly absorbed, leaving hard scybalous masses to act as a source of irritation, or to decompose and produce poisonous materials for absorption into the circulation.

As a result of the presence of these hard scybalous masses in the rectum and colon, or of the absorption of poisonous gases or ptomaines resulting from their decomposition, there arise numerous and varied disturbances of the whole system.

First among these disturbances may be mentioned neuralgias of various parts of the body, more especially of the supra-orbital branch of the fifth cranial nerve. These cases are often accompanied by gastric disturbances, and are supposed to be due to indigestion, and a cathartic is given, followed by some form of pepsin or other digestive. The headache is relieved by the cathartic action, and the patient goes on for a longer or shorter period, and then comes down with another: the intervals between the attacks gradually grow shorter, until the patient believes that he or she must have a little headache all the time, and occasionally a very severe one. Thus life becomes a burden instead of a joy.

Next to the supra-orbital neuralgia, as a result of constipation, comes that feeling of general lassitude, heaviness, loss of appetite, loss of interest in what is going on, pains in the back, etc., etc., accompanied by a furred tongue and nasty taste in the mouth, more noticeable in the morning, which leads to the nervous prostration that is so fashionable at the present time.

Again, chronic constipation may cause a perversion of the secretions, thus producing gastric and intestinal indigestion, leading to a true anemia, which, reacting, increases the constipation, and is injured, rather than improved, by the administration of iron alone.

Disturbances of the menstrual function, and even chronic catarrhal endometritis, may sometimes be traced directly to constipation, and cannot be rectified until the constipation is overcome.

Even chronic bronchitis, with great emaciation, suggesting immediately phthisis, is sometimes due to obstinate constipation. I recall the case of a Mrs. G., who consulted my late father, some six or seven years ago. The history was that she had taken a severe cold, some years previously, that had settled in a cough, which she had been unable to shake off. She had steadily emaciated, and coughed severely, especially in the morning, raising considerable muco-pus. She had been under the care of several physicians, all of whom had told her she had consumption, and had put her upon cod liver oil. Still she did not improve. I have, unfortunately, forgotten the result of physical examination of the chest in this case, as it was merely related to me by my father to impress upon me the fact that all coughs with emaciation were not necessarily consumption.

Careful inquiry revealed the condition of obstinate constipation and dysmenorrhea, dependent upon, or at least accompanied by, posterior displacement of the womb. Correction of the displacement by means of a pessary, and the use of a bitter tonic and the regulation of the diet, overcame the constipation, the cough ceased entirely in less than four months, and the patient is now a healthy woman; after a lapse of nine years, she has begun bearing children again, having had two in the last six years.

Having referred thus briefly to the possible consequences of constipation, I will now call your attention to the methods of curing the same, which have proved beneficial in my hands.

In the first place, in asking a patient as to the state of his or her bowels, I am never satisfied with the statement that they are regular, but always ask specifically whether they move every day. It is surprising, especially in dispensary practice, to find the great prevalence of constipation. If you ask a dispensary case whether her (and it is a woman seven times out of nine) bowels are regular, she will say: "Well, they were regular to-day;" but when you ask her whether they moved the day before, she generally says they have not, and further inquiry reveals the fact that they have not moved in five, seven, nine, and, in one case that I had, fourteen days. In fact, these people make of their bowels miniature Hamburgh canals of stagnant, foul, decomposing material within their bodies, and then wonder that they have no appetite and that they feel so poorly.

But to return to the subject of treatment. A case of chronic constipation is before us; what shall we do for it? "Chronic constipation? Oh! yes, I can cure that. Give him So-and-so's anti-constipation pill of aloin, belladonna, and strychnine, gelatin-coated, made to suit all cases." Well, perhaps you may hit it right, and cure the

patient ; but that is not the proper way to treat such a case, and you may be doing a great deal of harm. We must remember that these three drugs are all powerful poisons, and especially that strychnine kept up too long may do serious harm to the nervous system.

A case in illustration :

H. F., a boy aged 16, consulted me for troublesome constipation producing, occasionally, piles, and always a painful movement. He had obtained a prescription from some other physician for pills of aloin, belladonna, and strychnine, which he had been taking, one or two at night, and one or two in the morning, for over a year. He was suffering from occasional intense headache ; he awoke in the night with sudden jerks, and was troubled with nightmare. I examined him carefully. His tongue was clean, his appetite was good, except when he had headache, and he seemed in every way healthy, except for his constipation and the nervous state in which he was as a result of either the constipation or the pills.

On careful inquiry as to his mode of life and his diet, I found that he drank very little water. I told him to stop his pills, and to drink a tumblerful of cold water at night and one with his breakfast. The second day after, his bowels moved naturally, and continued to do so daily for a month, when he passed from under my observation.

Another case :

J. S., a boy aged 18, sent for me in a great hurry one night. I found him in great distress, from violent pain in the bowels, which had not moved in several days. The pain was so violent that I was forced to give him morphine hypodermically to quiet it.

I ordered his mother to give him a large enema of soap and water and sweet oil in the morning. The morphine quieted him, and the enema moved his bowels nicely. I then inquired into his condition, and found that he was a schoolboy, very fond of his books, that he did not take much exercise, and that, in consequence, his bowels had become more and more sluggish, until things had culminated in the attack for which I was called. Careful study of his case revealed no gastric or other digestive disturbance, but merely a sluggish condition of the bowel, with hard, painful evacuation, which occurred only once in three or four days.

For this case, I recommended regular out-of-door exercise and, temporarily, massage of the abdomen, rubbing the bowels in the direction of the colon, up on the right side, across, and down on the left side, for half an hour every evening and every morning. For two weeks, this treatment produced the desired result, and, as I have not seen him since, I judge the relief continues.

Another case :

A woman, between thirty and thirty-five years of age, consulted me in the Fitch Dispensary, complaining of loss of appetite, gastric pain when food was taken into the stomach, occasional vomiting, and neuralgic pains in various parts of the body. Further inquiry revealed the fact that she was constipated, never having a movement without taking "pills," which she would get at the drug-store. Her tongue was slightly coated. I gave her, to begin with, a dose of calomel, combined

with the phosphate and bicarbonate of sodium. This was followed up by the use of a prescription, containing at a dose:

Fl. ext. cascaræ sagradæ	M. x.
Tinc. nucis vomicæ	M. x.
Tinc. cinchonæ comp.	℥ii.
Vini Xerici, q. s., ad.	℥ss.

to be taken in water half an hour before each meal.

She has now been taking the medicine for a month. She has one good movement from her bowels daily, her tongue is clearing up, she no longer vomits, her appetite has improved, and she is feeling in every way better.

One more illustrative case, and then I will give you my general conclusions:

This case is a woman, of about forty-five years of age, who suffered from constipation for a number of years. She had been accustomed to a very sedentary life, and had accumulated considerable adipose tissue. She had a fair appetite, her tongue was not coated, she had no gastric distress, but she felt weak and unstrung, with occasional neuralgic pains in her face and side, and was markedly constipated, having a comfortable movement only by means of an enema.

She was given strychnine, gr. 1-50, three times daily before meals, was told to use her enemata for a week or two, and then stop their use. She did so, and continued to have movements a month after the enemata had been stopped, and the strychnine was being gradually reduced in amount when she passed from under observation.

From the study of quite a large number of cases of constipation, in both private and dispensary practice, I have come to the following conclusions, viz.: that the neglect of the important function of daily defecation leads to a poisoning of the system by absorption of gases and other materials, the products of decomposition of feces retained in the bowels; that the nervous system is seriously affected directly by the poisons thus absorbed and, reflexly, by the hardened masses of feces in the rectum and colon; that, as a result, neuralgias of various nerves make themselves felt; that the digestive secretions are perverted, thus interfering with the proper nourishment of the individual, and leading to anemia and all its train of ills: that it is more often due to neglect upon the part of the individual to respond to the calls of nature at the proper time than to any other one cause, thus producing a habit of constipation. This is often the case in early childhood, and it is our duty, as physicians, to impress upon mothers the necessity of compelling one movement from the bowels of the baby and young child at a given hour every day. This can generally be accomplished by attention to diet, and by placing the child on the stool regularly at the same hour every day.

In every case of constipation that presents itself, it is our duty to study carefully the conditions and mode of life of the individual to

learn the causes of the constipation and overcome it by hygienic means rather than by the administration of cathartics and laxatives. Many cases can be cured by the simple administration of cold water morning and evening. Where the constipation is due to the diminution of digestive secretions, this can be often overcome by proper exercise, such as rowing, horse-back riding, etc. Where exercise alone will not accomplish the result, the administration of some simple bitter tonic will excite the normal secretion and thus overcome the constipation; when the simple bitter tonic will not accomplish this result, the use of some substance with the special property of increasing the flow of one or more of the gastro-intestinal juices will be beneficial. The use of senna or cascara sagrada in combination with nux vomica and cinchona, forms an excellent remedy. But for the accomplishment of the desired results, these medicines should not be given in cathartic doses, but in doses of from seven to fifteen minims, given *before* each meal, if possible, a half hour before.

After it has been taken for a week or two weeks, the dose should gradually be reduced, and finally the medicine abandoned altogether. In those cases in which gastric catarrh is one of the causal factors, or, at least, an accompaniment of the constipation, systematic lavage, or the sipping of half a pint of hot water one hour, or half an hour, before each meal, is generally followed by most excellent results.

In cases of anemia with constipation, I have obtained most gratifying results by the use of Carlsbad salts, given in doses of one-half or one teaspoonful in four or six ounces of hot water, half an hour before each meal, and carbonate of iron in the form of Blaud's pills or Vallet's mass, or tinct. ferri chloridi, after each meal. The administration of the iron in these cases, without the simultaneous use of a laxative, is worse than useless.

In cases in which a lack of tone of the lower bowel is the evident cause of the constipation, as in people who lead a very sedentary life, regular systematic massage of the abdomen for half an hour, morning and evening, rubbing in the direction of the course of the colon from the cecum to the rectum will generally bring about the desired result.

In those obstinate cases in which this mode of procedure is not successful, the administration of strychnine in doses of from 1-50 to 1-20 of a grain, three or four times a day, kept up for a considerable time, in addition to the massage, is generally all that is needed. It is seldom that it is necessary to add aloin to the strychnine, but when it is, it had better be combined with belladonna also, to prevent the griping, as in the aloin, belladonna and strychnine pill, which, we thus see, has its proper place—though a very limited one—in the treatment of chronic constipation.

The use of enemata, or of glycerine, or soap suppositories, is only palliative and produces no permanent benefit.

To recapitulate, the physician should never forget to inquire into the condition of his patient's bowels, remembering that lack of the proper performance of their function has far-reaching results of a direful character; and in the treatment of chronic constipation it should be his aim to search carefully for the cause and remove it by the use of *hygienic measures*, such as the liberal use of water, fruits in their season, and other dietary means; by regularity of habits, by proper out-of-door exercise, by massage of the abdomen.

The great majority of cases can be cured by the use of one of these measures, or a combination of several. When, however, they one or all fail, as occasionally they do, we may turn, as a last resort, to the proper use of appropriate medicines. There can be no iron-clad rule as to what one medicine is useful in chronic constipation. Each case must be carefully studied and treated according to its individual necessities. When it is necessary to use medicines in the treatment, it is well to begin with one good purge by the use of calomel, blue mass, or the compound cathartic pill of the U. S. P., to be followed by the systematic use of the remedies indicated in the special case, remembering that it is very seldom necessary to use a true cathartic in such cases, but generally a stimulant, either to the digestive secretions, or to the muscular or nervous motor apparatus.

469 FRANKLIN STREET.

Translations.

ACADEMY OF SCIENCES, PARIS.

From Progrès Médical. By A. DAGENAIS, M. D., Buffalo, N. Y.

M. VERNEUIL called, once more, attention to the pathogenic properties of microbes contained in malignant tumors. The tissue of malignant neoplasms (cancers, sarcoma, epithelioma, etc.,) may be invaded, at any time, by different microbes, of which we cannot, for certain, yet determine the origin, gender, or number. This invasion, of which the causes and mechanism are equally unknown, may remain more or less concealed; but, also, in certain cases, it may bring in the evolution and nutrition of these tumors many modifications, as rapid growth, softening, and ulceration. These microbes are not always met with in all the different neoplasms, neither in all the neoplasms of

the same kind—not even in all the part of the neoplasm already invaded. They are not found, for instance, in all the lipoma, nor pure fibroma, neither in sarcoma or incipient cancers, with slow progress, and covered with healthy skin; on the contrary, they are found in the soft and ulcerated neoplasms. Beside the irritating effect which they manifest locally on the tissue of the tumor invaded, these microbes possess other pathogenic properties which interest the old economy. When they are contained in a tumor of rapid growth, or of softening tendency, they will give rise to a fever more or less intense and irregular. Moreover, during the ablation of a tumor which contains these microbes, they may, if mixed with the softened parts surrounding the tumor, contaminate, infect, and inoculate, which will cause a septicemic fever capable of producing death. The knowledge of this last fact goes to plead in favor of the ablation of malignant tumors, and at the same time dictates to the surgeon certain preventative measures during and after the extirpation of tumors infected with microbes.

Society Proceedings.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

STATED MEETING, SEPTEMBER 11, 1889.

The President, W. W. Keen, M.D., in the chair.

Dr. Ferdinand H. Gross, read a paper on

HEMATOMETRA.

In the experience of most of us, hematometra is of infrequent occurrence. This rareness, and not that I have anything new to say on the subject, is my chief inducement for reporting to the Society, with some detail, two cases of this hematic tumor, which came under my observation in the early months of the current year; indeed, the case to be presently mentioned, afforded me the first opportunity, in a good many years of experience as a practitioner, of estimating more clearly, after a personal examination, the signal importance of the condition. But, in the lapse of only a few weeks, a second case presented itself for my treatment. Atresia of the vagina I had repeatedly observed, but never its contingent, hematometra.

In the cases to which allusion has just been made, the atresia existed, in one, at the lower end of the vaginal tube, while in the

other it consisted in an obliteration of the cervical canal of the uterus; and thus were exemplified two interesting varieties of the occlusion.

A young girl, who had been under the care of different physicians, without the source of her troubles being fully recognized, was referred to me by a medical friend for treatment, with the information that a tumor occupied the vagina and filled up the lower pelvis.

The patient was in her fourteenth year, and therefore at the age of puberty; but she had never menstruated, that is to say, no visible signs of the catamenial flow had been noticed. The first disturbance of her health had occurred about six months before, and although she never felt quite well afterward, her indisposition for a time caused no apprehension. But a number of subsequent paroxysms, of augmented severity, attracted anxious attention. In short, the alarming character of the exacerbations led to a physician being consulted.

When later on, in an advanced stage, the case was referred to me, a digital examination of the vulva revealed, protruding therefrom, a smooth and very tense swelling, in which the experienced touch could readily detect fluctuation—a feature of the mass very clearly evinced by a rectal exploration. Neither the examining finger nor the probe could find anywhere between this protrusion and the labia an entrance to the vagina. The hypogastrium had become prominent from a tumefaction which arose from the pelvis. This enlargement, in the course of its development, had been noticed to be most sensitive during the above-mentioned paroxysmal attacks, which were doubtless the regular menstrual molimina. The continuous abnormal pressure upon the pelvic organs was the occasion of vesical and rectal tenesmus, as well as obstipation; and restless nights were the inseparable accompaniments of such torments. But, aside from these, there were symptoms of a subjective character, such as headache, giddiness, nausea, and other gastric distress, a feeling of painful fullness in the abdomen, palpitation, and disturbed vision, which the prescribed glasses of the oculist had failed to relieve. This complex of distressing and long-enduring symptoms was sufficiently pointing to lead to the diagnosis of hematometra as a contingent upon atresia hymenalis.

It is not my purpose here to recount with exhaustive minuteness the various results of hematometra if relief be not given in good time, by what is usually a simple surgical expedient. Nor would the time allotted permit me to speak of the lesion as it occurs in double vagina, in duplex uterus, and in other malformations of the female generative organs. Greulich relates, in concise form, but with sufficient clearness, the different issues of this condition, and cites an array of authors who appear in the literature of the subject; but some of the

results of this blood-tumor should not remain unnoticed in this place. Much may depend upon the period of life at which the atresia has been acquired. For example, in the climacteric age, the hematometra may eventually be tolerated,[1] or, at least, borne with less suffering or discomfort, since, at this period of change, the tumor may cease to enlarge because of the discontinuance of the menstrual secretion. But also at periods prior to the menopause, the rapidity, or slowness with which the uterine accumulation takes place, and consequently the degree of its evil effects upon the general organism, may depend upon the character of the patient's constitution, whether this be plethoric and robust, or weakly and anemic. If the latter be the case, the increase of the pent-up menses may be very meagre, or even nil; and again, if vicarious menstruation be established, the addition in utero would naturally be avoided, affording a degree of local relief, or, at least, checking for a time the progress of serious symptoms, provided the locality of the vicarious function be a safe one.

Among other possible results of this bloody accumulation are enumerated hematosalpinx, intraperitoneal hematocele, and hematoma of the ovarium, each with its serious consequences. The internal ostium of one or both of the Fallopian tubes may be drawn open by the expansive force of the womb's accumulating contents, which, if not met by tubal obstruction, may ooze out at the ostium abdominale and give rise to an intraperitoneal hematocele and peritonitis. In hematoma of the ovarium, the formative process is likely to be different. Whether at certain periods of functional activity, when the fimbriæ of the tube are said to clasp the ovary to receive the ovule from the bursting Graffian vesicle; or, in other words, whether, at the time of direct communication between the tube and ovary, the fluid of the hematometra ever escapes into the bursting vesicle or stroma of the gland, I must leave to hypothetical speculation. But hematoma of the ovarium, as well as effusion into the tube, may occur by direct extravasation from congested vessels and yet hematometra be responsible for either occurrence, since hyperemia of the uterine appendages is one of the accompaniments or conditions of the hematic tumor we are considering. If, therefore, the already engorged plexuses, or network of vessels of the environment, be periodically subjected to additional blood-pressure, the bleeding that follows the bursting of a Graffian follicle, under normal circumstances, may now become sufficiently copious to produce results of a pathological character.

Without stopping to speak of a possible rupture, which would allow the secretions to flow off in a natural or harmless direction,

1. Real: Encyclopedie der gesammten Heilkunde, vol. vi., page 180.

adhesions may form with the neighboring hollow organs, and perforation take place into bladder or rectum. Septicemia, from decomposition within the womb, is here the greatest danger. The entrance of urine, on the one hand, or of fecal matter or intestinal gases, on the other, would be favored by the womb's enfeebled contractile power, as that organ could not empty itself with promptness nor with that degree of force of which it is possessed when developed for a physiological purpose. The pressure of tumors is recognized as a cause of uterine atrophy, and we can readily conceive in hematometra the attenuated condition of the muscular coat. Another danger of infection might be a vaginal cul de-sac, below the point of perforation, into either of the hollow viscera mentioned, which would serve as a reservoir for decomposed matter.

Considering the possible results of this condition, no time was lost in providing for the escape of the accumulated secretions.

Hymen imperforatum, in a large majority of the cases, is not discovered before the age of puberty, and the one referred to was doubtless of the congenital variety.

The operation can hardly be called a painful one, but the girl had become so irritable and sensitive, from long suffering and repeated examinations, that the puncture by trocar was made under the ether narcosis. Thirty-two ounces of reddish-brown, chocolate-colored fluid was drawn off without interruption of flow. The canula being removed, a crucial incision with a probe-pointed bistoury enlarged the opening, whence a little fluid continued to ooze. Ergot was administered, but only gentle pressure was applied externally by an abdominal binder. The vagina was gently washed out with a weak solution of the bichloride. The uterus remained too high to be reached by the finger, and an examination per force was uncalled for. The vaginal surface was smooth and devoid of its rugæ. As an additional precaution, the pudendum was covered with compresses of antiseptic gauze.

It is to be remembered that the imperforate hymen is not a normal but a patho-anatomical structure. On the inner side its mucosa is continuous in cul-de-sac form with that of the vagina, and externally the mucous membrane is continuous with that of the vulva, while between these layers lies a fold of connective tissue. The membranous barrier, in this case, was found thick and tough and beyond expectation, imparting the feel of soaked leather.

The relief was prompt and decided; on the second day there was some pain in the hypogastrium, but no significant rise in the patient's temperature. In four weeks the menses were discharged in a normal manner, and this has recurred at regular intervals ever since.

In the second case alluded to, the woman is close upon forty years of age, has lived in the marriage relation for half that period, but remains childless. The evidence she relates as pointing to a miscarriage in the third year of her married life, is not conclusive. After that time she enjoyed good health until thirteen years ago, when she "had a severe fall backward," after which she endured so much pain in trying to void her urine, that she fainted. Her physician said she had "dislocated her womb," and used instruments to replace it. She was confined to bed for three weeks, and then treated in a hospital in this city; whence she returned home, still in a feeble condition, and remained in poor health for several years. These early troubles are briefly mentioned, since they concerned the genito-urinary organs, but I will not tax your patience with a history of subsequent maladies, which had but doubtful or no connection with the patient's later complaint. Suffice it to say, that after an attack of typhoid fever, as far back as 1883, she regained her former good health, and in all the years that followed until the month of May, 1888, the menstrual function was regularly performed. It was then, however, that the lesion, which concerns us here, appears to have had its beginning. The monthly discharge of blood became scanty, and to the patient it appeared as though "a stringy leucorrheal discharge had replaced the regular flow." Nor was she as free from pain as she had formerly been during her regular turns. In the following August her menses failed to appear, and the amenorrhea continued for eight months; that is to say, until she was relieved by the operation, to be mentioned further on. As regular as had been her monthly turns, just so regular were during those eight months the attacks of lumbar pains, and uterine cramps, the severity of which increased with each returning molimen. In vain she now applied for relief both to regular and irregular practitioners. The latter advised her to enter their hospital and submit to a laparatomy for the removal of what they pronounced to be a "fibroid tumor attached to the uterus and left ovary." This advice was not followed, and it need hardly be said in this presence that the diagnosis was as incorrect as the laparatomy would have been unwarranted. The condition grew from bad to worse. From dire necessity the woman had learned to catheterize herself, and was enabled by that means to get frequent relief from one of her greatest torments.

On the 30th of last March she entered the German Hospital, where she became my patient. On examination the next day, I found a large, smooth, very hard and firm tumefaction pressing low in the pelvis. The os could not be found, and there was no discernible discharge from the vagina. Fluctuation was not at all perceptible, either

by the vaginal or rectal examination. The mass had repeatedly been held by others to be a fibroid; but, on hearing the patient's own account of the case, from which the above is a condensed statement, I declared it to be a hematometra, at once verified the diagnosis with an aspirator-needle, and on April 2d, introduced an ordinary-sized trocar to draw off the long pent-up secretions. In penetrating at the indistinct but supposed point of the former os, the instrument imparted the sensation of passing through a wall of considerable thickness before reaching the cavity, showing the obstruction to be something more than membranous. It was probably brought about by a stenosis of the inner os, combined with an endocervicitis and adhesions of the entire cervical canal.

The mahogany-colored, jelly-like fluid, or semi-fluid, could not flow freely through the canula of the trocar, but came only drop by drop. The cervix dilator, therefore, replaced the canula, and being used as a director for making a shallow crucial incision, a quart of the tarry substance was drawn off. The cavity of the wound was freely washed out with a continuous stream of the mercuric solution. Ether was not administered. The after-treatment was, in the main, similar to that instituted in the other case. Recovery was complete, and the patient has several times since the operation menstruated at regular periods.

DISCUSSION.

Dr. JOHN C. DACOSTA: I would ask Dr. Gross where he punctured the uterus in the second case? Did he attempt to follow the cervical canal, or did he put the trocar directly into the mass? I congratulate both patients on having fallen into the hands of Dr. Gross, and out of the hands of their previous advisers. Hematometra is not of common occurrence, and when we have it, it is usually due to closure of the entrance; or atresia, so-called. The first case detailed, I think, would be found described in the books under the head of atresia of the vagina, rather than of hematometra. I do not understand how those who had previously examined and treated the case could have overlooked the nature of the difficulty. They would not have done so if they had heard the late Professor Wallace lecture on atresia vagina, as he used to describe it, with "the bulging membrane, looking like a child's head coming out." If they could not have made a vaginal examination, an examination by the rectum would have shown the uterus above and the soft fluctuating mass below, and made the diagnosis for them.

The second case seemed to be due to closure of the cervical canal. This is more common after the application of solid nitrate of silver, than people generally are aware of. There is apparently something particularly vicious about the application of solid nitrate of silver to the cervical canal. Stronger agents may often be used without producing the trouble it does. I do not see how, in this case, a practitioner could mistake the nature of the trouble. The gravity of such cases often arises from imperfect examination of the parts, and, therefore, ignorance of the condition; hence, as a result of this—want of timely treatment.

Dr. LAWRENCE WOLFF: I had the pleasure of examining the second case with Dr. Gross. I assisted him in emptying the uterus, and my curiosity being aroused as to the nature of the chemical changes that had taken place, I secured some of the contents for examination. The microscope showed that there were no corpuscles present. I made the blood test, and secured Teichmann's hematin hydrochloride crystals. While there was undoubtedly blood, there was no hemoglobin but hematin. I think the question is not altogether solved as to what becomes of the serum-albumin in such conditions. The uterus is not prone to take up serum-albumin, but here it had evidently been absorbed, and nothing but globulin and hematin remained, as we found to be the case when the mass was mixed with water, which rendered it turbid, the globulins being insoluble in water. The fact that globulin is not taken up, is not generally known. We know that the corpuscles, as a result of pressure, poisons, and other conditions, will break down, and that hemoglobin will be changed to hematin, but it is not generally understood that in hematometra serum-albumin, which is diffusible, is reabsorbed, and globulin retained. These facts have a bearing upon various pathological conditions, especially some forms of nephritis, and that is one reason why I have brought up these points in regard to the condition of the blood in these cases.

Dr. J. PRICE: These congenital forms of atresia are quite common. In the last few years a great many operations have been done for infantile forms of the female generative organs, and in many of these cases we find atresia. In the last year I have done two sections for regular menstrual molimen without blood. They had suffered from the age of thirteen or fifteen years to thirty-five, without any menstrual flow. In these cases I found atresia with infantile uteri. The appendages were rudimentary. There was no accumulation. In these two cases the results have been quite happy.

A few years ago, a lady asked me to attend her in her confinement.

Conception had immediately followed an operation upon the cervix done by an estimable operator. She had been sterile for five years before the operation. Previous to this she had borne three children. She sent for me after she had been in labor for some time. There had, however, been no show. On examination, I found a supra-vaginal diaphragm, without the semblance of os or cervix. I made a careful speculum examination, and sent for a friend, a man of good judgment and experience. The head was engaging, but no os could be found. We made a crucial incision in this diaphragm, and she was delivered of a healthy child without trouble. She made a good recovery, and has since borne children. In this case, although a canal had been left, there were probably some granulations which subsequently closed the canal.

Ten days ago, I operated upon a cicatricial case. The woman had borne four healthy children, but had not menstruated for some years. I found but little accumulation. There had been extensive sloughing, and I had to make a vagina throughout. A portion of the blood had apparently been absorbed. The material found in these cases is usually of a hard character, similar to that found in hematosalpinx. It will make a black mark, and can be used as a crayon.

The discharges from the tubes, of which Dr. Gross speaks, I am satisfied, last only a short time. The irritation is sufficient to provoke occlusion of the tube, and we have the clubbed condition of the tubes seen in accumulation of fluid in the tubes. They then look like the end of an amputated finger. I have here two specimens illustrating this point. The woman from whom this was removed never conceived; there is a semblance of a pavilion. There has been salpingitis and local peritonitis, causing closure of the pavilion. Here you have a broad ligament cyst, an occluded tube, and a typical hydrosalpinx. Schoeder gives an interesting discussion of this entire subject, and cautions care in the examination that leakage or rupture may not occur. It is evident from his remarks that this accident had occurred in his hands.

Dr. Gross: In reply to the question of Dr. Da Costa, I would state that there was only a point indicating where the os might have been. I followed this in the direction one would suppose that the canal would take. It was some distance before the trocar reached the cavity.

In regard to the first case, an examination per rectum might have revealed a small uterus if the fluid had been contained only in the vagina. This case was, however, of six or seven months' standing, and the secretions, after filling the vagina, had also dilated the cervix

and uterus. Here the term hematometra is also used. When the vagina only is filled, it is a hematocolpos. To be more exact, unless you object to long names, the term hematometracolpos would express the condition when both vagina and uterus are involved.

I am obliged to Dr. Wolff for his interesting remarks in regard to the character of the fluid; they make the report of the case more complete.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

SEPTEMBER 5, 1889.

Dr. JOHN C. DA COSTA in the chair.

Dr. JOHN C. DA COSTA: An Easy Method of Repairing the Perineum.

There is probably not any operation in gynecology which gives a woman so much relief as the proper restoration of a torn perineum.

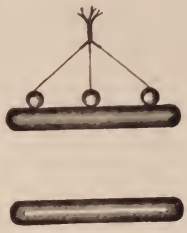
In describing this operation, I shall not say a word in regard to the anatomy of the perineum, which is the same as it was a hundred years ago. The same muscles are torn now as were torn then. This subject —tear of the perineum—may seem to be a very simple matter; but when we consider that twenty per cent. of women have their perinea torn in first labors, and four per cent. in subsequent labors, it ceases to be a little matter, and becomes one of importance.

I do not claim anything new. The operation is the result of a combination of old ideas. It is an easy and simple method of repairing the perineum, and answers equally well whether the tear is long or short. I thought I had something new in the use of these rubber bars, when I got it up eight years ago, but afterwards found that one of my ideas had been anticipated twenty years ago.

Mr. Lane, of London, in 1860, used ivory bars with small perforations, and reports thirty consecutive cases without a failure. Dr. Thompson, of Washington, used flat rubber bars with small holes in them, and reports fifty-three consecutive cases, all cured. Dr. Thomas, after speaking of the quill suture, leads us to infer that he used perforated bars, and states that he does not recall a failure in the operation.

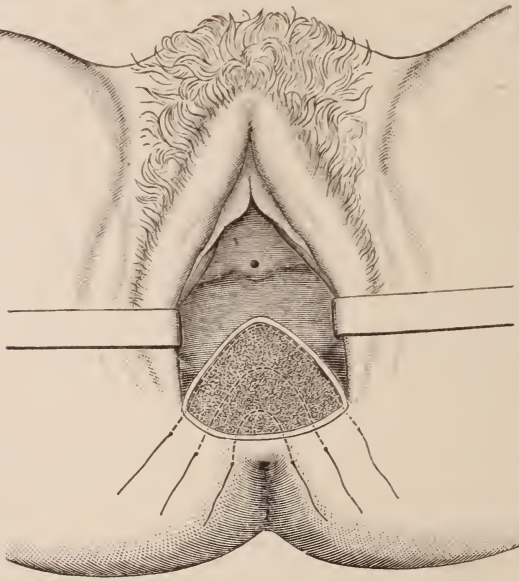
I do not know how many present are believers in the idea advanced four or five years ago, at the meeting of the American Gynecological Society in this city, "that there is no such thing as a perineum;" but there certainly is a triangular body between the vagina on one side and the rectum on the other; and this triangular body is often torn through

during labor, and becomes what I call a ruptured perineum. There are many ways of repairing it. Some are very simple, some are very striking, but very useless; what I strive to do is to restore the perineum very much as nature made it. The operation is easy, and the armamentarium is simple. We require a pair of scissors (I use a pair of blunt-pointed scissors), a perineal needle, a little silver wire and shot, a shot compressor, and two bars shaped like the cut.



Bar, ½ size.

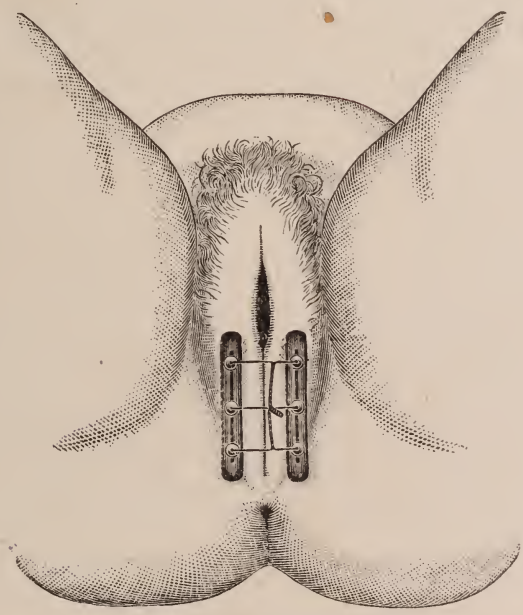
The operation is begun at the bottom of the tear in the vagina. With one or two fingers in the rectum, I make a little slit at the lowest point, and denude subcutaneously all the tissue that has been torn. I do not know how far up I go—it may be two inches, or even nearly the length of the finger. This depends altogether upon the extent of the tear. The important thing is to get rid of all the scar tissue. Unless this is done, good union will not be secured. After denuding up the proper distance, the scissors are turned to the



Surface denuded, and stitches in place.

right and to the left, and each side denuded. Then, with four cuts of the scissors, the loosened cicatricial tissue is removed. A denudation of this kind freshens the torn perineum as, I think, no other method does. The first stitch, near the bottom of raw surface, is passed three-fourths of an inch from the edge of the cut portion, buried in the tis-

sue the whole distance, and comes out at the same distance on the other side. The needle is then threaded with silver wire and withdrawn. The second stitch is put in in the same way. The third stitch is started in the skin like the others, and three-fourths of an inch from the edge of the cut, carried along just under the edge of the denudation the whole way around. This is the most important stitch of all. It was the idea of the late Albert H. Smith, when one of the physicians-in-chief at the Nurses' Home some years ago. The



Operation finished, and bars in place.

stitches are buried throughout, and only three are used in the operation. All that is necessary is to bring them out in nearly a straight line.

The wires are then slipped through slotted rubber bars, on each side, and shot clamped on them. After the shot are clamped, the ends of the wires are twisted over the median line, and the ends passed through a piece of catheter. In twenty-four hours there is swelling and a certain amount of inflammation. I then cut the wires off close above the shot, and this at once relieves the tension and the pain. Any desired dressing may then be applied, if it is thought advisable to use one.

What are the advantages of this operation? In the first place, you have but three stitches. I think that probably every gentleman

has seen perinea operated on where there has been deep quilting, and have seen the tissue slough out because the circulation has been so interfered with that nutrition could not be maintained. These three sutures interfere very little with the circulation, and they hold together the deep parts of the wound, which is very important. When inflammation takes place, you cut the wires over the shot, the bars spread and relieve the tension and prevent any tendency to sloughing, while still supporting the parts.

After the wound is closed, you may take a piece of catgut and whip up the edges in the vagina, and along the line of the raphè. This is not necessary unless we want to make a very perfect job. The operation is easily and quickly performed. I have never timed myself, and never tried to do the operation in a hurry, but I accidentally found out how long it takes.

On one occasion, in thirty minutes from the time that I began, I had operated on two cases, and this included the time necessary to put one patient under ether from perfect consciousness to unconsciousness. The denudation is accomplished in four or five minutes.

This is a different operation from that in which the denudation is made in curved lines, and where another operation is required for any existing rectocele. The operation described above will include also a rectocele. It is better than another popular operation, which does not restore the triangle which nature made, but makes a beautiful skin-flap, which looks well from the outside, but affords no support.

I do not claim anything novel. It is simply a combination of ideas that I have picked up from time to time. In regard to the results of the operation, it is a rare occurrence to have a failure.

DISCUSSION.

Dr. J. PRICE: There are a few points about which I should like to speak in connection with this and like procedures. As Dr. Da Costa has said, this is an old operation, and is illustrated in all the books. It is the old operation upon the posterior wall, and has the merit (?) he referred to, of, in many cases, making a superficial or skin perineum. The principle of suturing described is one not adopted in any other branch of surgery, and Dr. Da Costa would himself not apply this principle in any other portion of the body. He says that sometimes he denudes a distance of three inches. In no other part would he approximate such a surface with three sutures, and three sutures will not close it.

A word in regard to the denudation. He speaks of four clips of the scissors,—the button-hole, the central, and the two lateral. In

many cases it is impossible to make such a denudation. You will button-hole the flap many times. That was the trouble with the Smith and Jenks operation. It is difficult to make a clean denudation in the midst of scar tissue by such a method.

One of these illustrations shows what takes place in many perineal tears. The skin-perineum side is not harmed; but if you place your finger in the sulcus on one side, you will find a sense of resistance which is absent on the other side. The sulcus is a deep one, and is a lateral tear. As has been remarked by Dr. Deaver, "It is for all the world like the lateral cut for stone." In such a case, the procedure is almost a unilateral one to bring up the pelvic floor. It is just such a state of affairs that Emmet had in view in his classical operation for the restoration of the pelvic floor or diaphragm, and he has most beautifully succeeded.

In regard to the use of this needle. Dr. Da Costa has referred to the fifty-three cases reported by Dr. Thompson of the Columbia Hospital; but he lost one or two from tetanus, and this bayonet was at the bottom of the tetanus. I look upon this needle as wholly unjustifiable in any surgery. No man has a right to have such a thing among his instruments. I am surprised that more do not die from such a stab, including, as it does, incongruous masses of tissue, skin, fat, muscles, vessels, and nerves. I remember, while a student, of seeing a death from such a stab. I use the smallest sewing-needle possible.

These procedures are very old, and are illustrated in all the old works. I consider all two-or-three-stitch methods of closing the perineum as emphatically imperfect procedures.

Dr. John C. Da Costa: What Dr. Price has said in regard to one of these illustrations has nothing to do with the subject under discussion. He refers to a tear of the vagina, which has nothing to do with a tear of the perineum. If there is a line of cicatricial tissue on one side, we do not need to denude both sides to repair the condition. It is a simple matter to remove the scar tissue and sew it up, as in any other surgical operation.

I am sorry to hear this tirade against this needle. Some very able men use this needle, and they get very good results. Albert H. Smith, who did a good deal of gynecological work, used a needle much like this. One of the most successful abdominal surgeons in Philadelphia uses a needle much like this. Surgeons in all branches of surgery use needles very like this, — either a little more or a little less curved. One who came from Europe, a year ago, showed me a long, curved needle which he brought with him and said was Tait's needle. It was precisely similar to one which I have had in my box

for some years for use in complete laceration of the perineum. This is only the Baker Brown needle modified.

I do not know that Dr. Price has said anything against this operation. He has talked a good deal about the needle, and about a tear that does not apply at all. I can only say, that, despite his fears, the operations are almost uniformly successful. Any one who can do the ordinary quill operation can do this. After analyzing the various operations eight years ago, I found that the best results were obtained by the old-fashioned operation. The quill operation, however, made a V-shaped sinus to the bottom of the wound, and sometimes caused a great deal of trouble; and it was to overcome this objection that I substituted the hard rubber bars with the wires running through.

BUFFALO PATHOLOGICAL SOCIETY.

REGULAR MEETING, SEPTEMBER 20, 1889.

Reported by EUGENE A. SMITH, M. D., Secretary.

Dr. JAMES W. PUTNAM read a paper entitled "The Graver Forms of Hysteria." (See October number, page 153.)

Dr. JEWETT asked the essayist for the differentiating points between hysteria and chorea.

Dr. PUTNAM mentioned the history of the case, the sudden onset in hysteria, the presence of one or more spots of anesthesia, and the fact that hysteric patients can be hypnotized.

Dr. JEWETT also asked if genital troubles had a causative effect on hysteria.

The answer was a qualified No. The essayist said, "We press over the ovaries, in hysteria, because they are sensitive points."

Dr. STOCKTON related the history of a rheumatic family. The three children, successively, had chorea, and one had abnormal heart sounds.

Dr. PRYOR wished to find out if hysterical cases ever had the endocarditis, with peculiar bead-like vegetations on the heart valves, commonly seen in chorea.

Dr. PARK told of a young woman who developed spinal trouble after mental disturbance. The case had passed through several physicians' hands undiagnosticated. Dr. Park and Dr. Putnam had found her with a hyperesthetic spine, inframammary point, and left ovary. The case was diagnosticated and successfully treated as hysterical.

Dr. PARMENTER told of a patient, 60 years old, who fell when a young woman and dislocated her ankle. Since then, the foot has been extremely sensitive, and the sensitiveness has spread gradually up to the groin. There is no organic change discoverable.

Dr. PRYOR desired to be told the difference between hysterical coma and trance. He saw a man at the Fitch Hospital who had general anesthesia, staring, widely-opened eyes; breathing and pulse, normal. Upon having ice-water dashed in his face, and a repetition of the dose threatened, he rose and walked off. A similar case at the General Hospital walked away rather than take a dose of castor oil, which was ordered in her hearing.

Dr. PUTNAM said that pressure over the ovaries will always wake a woman from hysterical trance. Replying to another question, Dr. Putnam said that most trance-sleepers are fairly well nourished, but he had seen one who starved herself.

Dr. VAN PEYMA asked for a definition of hysteria, and Dr. Putnam stated that he could not give a clear definition. He said that specialists differ, and that the best he can do is to call it a nervous disease which cannot be accounted for by pathological changes, and which responds to certain symptoms.

Dr. STOCKTON, under Voluntary Communications, gave the following report of a case at the General Hospital: A mulatto was brought in, dull, muttering in delirium, and without obtainable history. His eyes were slightly sensitive, pupils contracted; it was difficult for him to swallow, and his abdomen was contracted. He had typhoidal diarrhea. His temperature ranged between 101° and 103°. The *post mortem* revealed ℥iv. of bloody serum in his left pleura, the endocardium had a peculiar bluish appearance, and one cusp of the mitral valve was perforated by an ulcer the size of a split pea. In the opening of the ulcer was a blood-clot. The small intestine, four feet above the ileo-cecal valve, was inflamed and contained ochre-colored feces. The spleen was soft and pulpy in its upper two-thirds. The kidneys contained several old caseated infarcts and a few fresh ones. In the brain were two fresh spots of infarction.

Dr. PRYOR asked that microscopical sections of the ulcer be made, to find if it is a case of septic endocarditis, as described by Prudden.

Dr. STOCKTON reported a case of emphysema extending into the subcutaneous cellular tissue over the whole trunk. The child died of acute miliary tuberculosis, and a *post mortem* revealed a perforating ulcer of the right bronchus, permitting air to work along the trachea and over the trunk.

Dr. PARK described a case in which the air escaped at the spot of

a broken rib, and extended over the trunk and down on the thigh. He compared it to a butcher blowing up the subcutaneous cellular tissue to make slaughtered animals appear fat.

Dr. PARMENTER reported a case similar to Dr. Stockton's. Dr. Stockton stated that "Pip" in chickens is emphysema, caused by a worm which perforates the trachea.

Dr. VAN PEYMA told of a case of labor, in which, head and shoulders being born, the child was delivered with difficulty. Owing to abdominal dropsy, the abdomen measured eighteen inches in circumference.

Dr. PRYOR reported a case of syphilitic pneumonia which cleared up after treating the patient with iodide of potassium. He diagnosticated the trouble because the part affected was the middle lobe of the left lung, and the patient had ulceration of the tonsils. A feature in this case, not usually seen in such cases, was the presence of fever, the temperature at times reaching 103°.

Dr. BERGTOLD reported that to kill a great horned owl, weight four pounds, he injected one and a half grains of morphine into its peritoneum without seeming to dull or even affect the bird.

In answer to the questions propounded at the August meeting, Dr. PARMENTER declared himself unable to give the etiological effect of alcoholism in the parents on congenital umbilical hernia, and in regard to mortality, he said that congenital cases are commonly fatal, only fifty per cent. of the less severe cases recovering under the use of antiseptic compresses.

Dr. PARK reported a case of cholecystotomy, performed on a jaundiced woman who had an abdominal tumor containing pus and a history of passage of biliary calculi. One hundred and four gallstones were removed and the sac drained. The patient is doing well.

Dr. JEWETT contrasted this case with one he had seen twelve years ago, when, with the best medical men in the country in attendance, the patient died without an attempt at operative relief.

STATED MEETING, OCTOBER 18, 1889.

Dr. PARK presented a specimen of recent fracture of the shaft of the humerus, removed from the body of an aged man, whose death followed some twelve days after the injury. It exhibited recent callus, small in amount, but normal in arrangement, and was shown simply as an example of a normal condition seldom seen in recent specimens.

The same case exhibited another condition of extreme interest. The patient developed before his death a traumatic mania to such an extent as to require restraint. During this he displayed a spastic paraly-

sis of the right leg. There was loss of motion and sensation of the foot, yet the muscles were in a condition of spastic spasm. There was a difficulty of diagnosis, as between injury to the limb and some recent or old cerebral lesion, especially in the absence of any history. It was held that the latter was the probable condition.

Upon autopsy a localized area of congestion was found directly over the cortical center of the right leg. Around and beneath this was a wider area of edema, both of the pia and the cortex. Careful examination of the underlying parts of the brain failed to reveal any explanation of the lesion, either in the presence of emboli or any other disturbances.

Correspondence.

Editors Buffalo Medical and Surgical Journal:

Some statements reappear yearly like the sea-serpent, for instance the instantaneous cure of whooping-cough by Mohn's proceeding with sulphurous acid fumigations. Your esteemed JOURNAL, page 173, of October, 1889, repeats once more Mohn's statement. May be there is truth at the bottom of it, but that this proceeding is *always* successful is far from true. Young practitioners would be misled, hence my refutation based on actual careful trial. If others, Schoenberg, in Christiania, excepted, would have had results like Mohn, this would be now the only method of treating whooping cough, but it is not.

Very respectfully, M. HARTWIG.

38 EAST HURON STREET, October 1, 1889.

HUMOR.

Old Mrs. Smiley: "Next time I get took down sick, my dear, I wish ye wouldn't have that there young sprig of a doctor come to attend me. I don't go much on young doctors, no how." Mr. Smiley: "Well, Maria, who would you like to have me call?" Mrs. S.: "I've kinder took a notion to the doctor around the corner. I dun no much about him; but I see he's got a sign out 'Veterinary Surgeon,' and I think he must be a man of experience."—*Cincinnati Lancet-Clinic.*

Selections.

RECENT MEDICO-LEGAL DECISIONS.

MARSHALL D. EWELL, M. D., Attorney-at-law, in the *North American Practitioner*, notes the following cases that have been published since his last communication:

DRUGGISTS.

If the owners of a drug-store take any part in conducting the business, and are not licensed as required by N. H. Gen. Laws, Chap. 133, they are liable to a penalty, although they have in their employ a person duly licensed, who compounds the medicines called for by physicians' prescriptions. *State v. Forcier* (N. H.), 17 Atl., 577.

A fee of five dollars for a license to engage in the business of an apothecary and druggist is merely an equivalent for the services in making the examination and issuing the license, and cannot be considered as a tax upon the business, or of depriving the applicant of his property without due process of law. *Id.*

It is no defense to a prosecution for retailing drugs, etc., without license, to show that no actual harm has resulted from defendant's violation of the statute. *Id.*

Under the Tennessee statute, no druggist, simply because he uses alcoholic or vinous liquors in the compounding of tinctures, essences, or other preparations, is therefore subject to the tax of a liquor-dealer. *The Druggist Cases*, 85 Tenn., 449.

Druggists selling liquors contrary to the Tennessee Acts of 1870 and 1885, and without license, are subject not only to the tax imposed on liquor-dealers, but also to indictment for each sale. *Id.*

Under Tennessee Act 1885, Chap. 5, it is not lawful for a druggist to sell, without paying the tax on liquor-dealers, either spirituous or vinous liquors for any purpose whatever, upon prescription or otherwise, "except wine for sacramental purposes." *Id.*

Prior to Tennessee Act 1885, Chap. 5, a druggist might, in good faith, sell wine for communion purposes, or fill the prescription of a regular practicing physician for either alcoholic or vinous liquors, without paying the tax on liquor-dealers, but at no time since Tennessee Act 1870, Chap. 51, has it been lawful for him to sell for medical purposes, without such prescription. *Id.*

Under the Tennessee statutes, no druggist selling compounds, tinctures, essences, perfumery, or other preparations of which either alcohol, wine, or other liquor is a component part, subjects himself to the tax imposed on liquor-dealers, unless such sale is a mere sham or subterfuge to evade the law. *The Druggist Case*, 85 Tenn., 449.

INSANITY.

Where there is evidence tending to prove that defendant, at the time of committing a homicide, was in fact insane as distinguished from mere intoxication, an instruction that if his mental condition was directly, or even remotely caused by voluntarily drinking intoxicating liquors, or produced by other causes combined with such voluntary drinking, he must be considered responsible and sane, is misleading. *Terrill v. State* (Wis.), 42 N. W., 243.

The fact that a grantor, because of financial troubles, is in a condition of mind to make a foolish bargain, is of no weight to prove him insane, so as to invalidate a conveyance of land by him. *DeWitt v. Mattison* (Neb.), 42 N. W., 742.

Evidence that the assured was ordinarily a man of pleasant and genial disposition, whose family relations were pleasant, that after a certain time he became depressed, complained of pain in his head, was abstracted and stupid, could not pay close attention to business, did not appear to remember what was told him, and impressed people with whom he came in contact that he was out of his right mind, and that he finally cut his own throat—is sufficient to go to the jury upon the question of insanity. *Blackstone v. Standard L. & A. Ins. Co.* (Mich.), 3 L. R. A., 486; 39 Alb. L. J., 449; 42 N. W., 156.

PRACTICE ACTS.

A statute putting upon a physician who gives a prescription for whisky the burden of showing that the whisky was needed as a medicine by the patient is not unconstitutional. *Com. v. Minor* (Ky.), 10 Ky. L. P. Rep., 1008; 11 S. W., 472.

An act prohibiting a physician from giving a written prescription for whisky, except to a person who is actually sick, and who needs such liquor as a medicine, is not unconstitutional. *Id.*

A physician cannot be convicted, under Kentucky Act, May 9, 1884, Section 8, for giving a prescription for whisky, if the person to whom it is given is actually sick, and if, after a reasonably full and fair investigation of the disease, the physician in good faith believes that the patient needs whisky as a medical remedy. *Id.*

Under the North Carolina statute, a physician prescribing liquor for a minor, and selling or giving it to him, he keeping the liquor for sale or profit, is guilty of a misdemeanor, although he may act in good faith. *State v. McBrayer*, 98 N. C., 619.

A contract to pay a fee for services rendered by a physician who is not licensed, is void in its inception, where a statute prohibits him from practising as a physician for fee or reward. *Puckett v. Alexander* (N. C.), 3 L. R. A., 43; 17 Wash. L. Rep., 311; 8 S. E., 767.

An amendment to a statute prohibiting a person from practising medicine without a license, which provides that it shall not apply to physicians who have a diploma from a regular medical college, cannot make valid a contract made before the passing of the amendment to pay for the services of an unlicensed physician who had such a diploma, which contract was void in its inception. *Id.*

Services rendered by an unlicensed physician, under a contract which was void in its inception because prohibited by statute, do not constitute a consideration which will support an express promise to pay for the services. *Puckett v. Alexander* (N. C.), 3 L. R. A., 43; 17 Wash. L. Rep., 311; 8 S. E., 767.

L. C. CARR, M. D., Professor of Obstetrics, Cincinnati College of Medicine and Surgery, Cincinnati, O., says: "I have given 'Papine' (Battle) a fair trial, and am well pleased with its action, especially so in the case of an infant suffering with an attack of convulsions. Its action was speedy and safe."

BUFFALO MEDICAL AND SURGICAL JOURNAL

A MONTHLY REVIEW OF MEDICINE AND SURGERY.

EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

INTERMITTENT FEVER AND ATMOSPHERIC TEMPERATURE.

IN SOME interesting studies of intermittent fever and its relations to atmospheric temperature recently made by Dr. Henry B. Baker, Secretary of the Michigan State Board of Health, he arrives at the following conclusions:

1. Intermittent fever is proportional, directly or inversely, to the average daily range of atmospheric temperature.

2. The controlling cause of intermittent fever is exposure to insidious changes, or changes to which one is unaccustomed, in the atmospheric temperature.

3. In the mechanism of the causation of intermittent fever, the chief factor is the delay in the reaction from exposure to cool air; this delay, extending to a time when greater heat loss should occur, results in the abnormal accumulation of heat in the interior of the body, and in disturbing nervous action—the chill; and the final reaction is excessive because of the accumulation of heat, and sometimes because it occurs at the warmest part of the day.

4. The fever is the excessive reaction from the insidious influence of exposure to cool air; and it is periodical because of the periodicity of nervous action, and because the exposure and consequent chill are periodical, owing to the nightly absence of the warmth of the sun.

5. Residence in valleys or on low lands through which, or upon which, cold air floats at night, and thus causes insidious changes in the atmospheric temperature, favor intermittent fever.

6. In our climate, those measures (such as drainage) which enable the soil to retain the warmth during the night, and thus reduce the daily range of temperature immediately over such soil, tend to reduce intermittent fever among the residents thereon.

7. In the cure and prophylaxis of intermittent fever, those remedies are useful which lessen torpidity and tend to increase the power of the body to react promptly to insidious changes in the atmospheric temperature.

8. The slowness of the pulse, and other indications of torpidity associated with retention of bile, or with certain disturbances of the function of the liver, are well known; but, so far as known to the writer, these conditions have not hitherto been considered as causative of the fever in the manner herein suggested.

These conclusions may be in perfect keeping with meteorological observations, but when considered from a pathological standpoint certain discrepancies are encountered. Certain atmospheric changes, under certain conditions, *do* effect the onset of an attack of intermittent fever; but, in such cases, the causative agent may be sought for in the blood of the individual rather than in the surrounding media. The action of excessive changes of temperature is instrumental in the production of miasmatic poisons which enter the system, and, in turn, as the system yields or not, engender an attack of intermittent fever.

The researches of Laverain in Algiers, communicated to the French Academy of Medicine, in 1881 and 1882, go to show that in the blood of malarial patients certain characteristic elements are present. He found (1) crescentic pigmented bodies; (2) pigmented bodies in the interior of red blood corpuscles; and (3) pigmented flagellate organisms. These observations have been many times confirmed, especially by Richard, Marchiafava, Celli, Councilman, and others, and the organism designated as "plasmodium malariæ." Osler has recently made very extensive enquiries into the character of this organism, and found them (being polymorphic) in sixty-two out of seventy cases examined. Failure to find them in the other eight cases he believes to be due to some source of error.

It is more plausible to infer that these organisms, or their ptomaines, by entering the general circulation, produce their characteristic poisoning effects on the brain centers, and especially on the thermal centers, than to consider the fever as "the excessive reaction from the insidious influence of exposure to cool air."

The explanation offered for the periodicity of the attacks of intermittent fever as "owing to the nightly absence of the warmth of the sun," could explain the quotidian type, but could hardly be accepted in those cases where the double quotidian, tertian, or quartan types exist

The writer further says that "in the mechanism of the causation of intermittent fever, the chief factor is the delay in the reaction from exposure to cool air." In exposure to cool air, the thermotaxic mechanism of the body is brought into play, and by increasing thermogenesis on the one hand, and diminishing thermolysis on the other, the body is kept at a nearly constant fixed temperature. Any disturbance in either of the thermogenetic or thermolytic functions,—and these functions have their centers in the brain,—will produce a disturbance in the thermotaxic mechanism, and it fails to maintain the balance between heat production and heat loss. As a consequence, fever follows—be it intermittent or otherwise designated.

In the cure of intermittent fever, therapeutists have found that those remedies which act on the organisms, act most readily on the fever. The experiments by Osler, on this point, are very conclusive.

W. C. K.

A NEW HEALTH LAW IN MICHIGAN.

EVERY CASE OF TYPHOID FEVER SHOULD BE REPORTED TO THE HEALTH OFFICER.

TYPHOID FEVER is a disease that the Michigan State Board of Health has declared to be "dangerous to the public health," and as such it comes under the law requiring physicians to report to the health officials. Any physician who shall neglect to immediately give such notice, "shall forfeit for each such offense a sum not less than fifty nor more than $100." *After October 1st, any householder* who shall refuse or wilfully neglect immediately to give such notice, shall be deemed guilty of a misdemeanor, and is liable to a fine of $100, or in default of payment thereof, may be punished by imprisonment in the county jail, not exceeding ninety days.

It seems important that the people generally shall understand this new law, which applies to scarlet fever, diphtheria, small-pox, and all such dangerous diseases, as well as to typhoid fever; but at this time of the year typhoid fever is usually most prevalent, and it is especially dangerous in times of drouth, therefore the safety of the people may now be greatly promoted by having every case of typhoid fever reported to the Health Officer, who is, by law, (Section 1, Act 137, Laws of 1883,) required to promptly attend to the restriction of every such disease. A new law, which takes effect October 1st, makes it a misdemeanor, punishable by fine or imprisonment, for the health officer knowingly to violate that section of the law, or for any person knowingly to violate the orders of the Health Officer made in accordance with that section. But the actual penalties which are incurred by the violation of these laws are the *death penalties* to many people, about 1,000 being lost in Michigan in each year from typhoid fever. The saving of a large portion of these lives is the real reason for the effort, in which it is hoped all persons will join, for the restriction of typhoid fever, and other dangerous diseases.

The attention of the State Board of Health of New York is invited to the wise provisions of this Michigan statute. It would be well to take similar action in this great commonwealth, where so many lives are annually lost from typhoid fever, that might be saved through timely prophylaxis.

THE COMMITTEE ON HYGIENE of the Medical Society of the State of New York, Dr. E. V. Stoddard, of Rochester, Chairman, has issued the following circular note:

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

COMMITTEE ON HYGIENE.

JUNE 1, 1889.

During the past two years, considerable discussion, as to means for increasing the efficiency of administration of local Boards of Health in this State, has resulted in a growing conviction that a change in their organization is necessary to ensure it. The Committee on Hygiene of this Society, at its last annual meeting, was instructed to report on this subject at the next annual meeting, in February.

The suggestion which this Committee would make, is the adoption of the *county* as the *unit of organization*, and not the *city* or *village*, as under the present order, making the county seat the sanitary center, thus reducing the number of local Boards; also making the position of Health Officer the prominent one of the Board, and ensuring capacity for the work, with permanency in office and a sufficient compensation.

The following questions for reply by each County Society, are offered:

1. Are the local Boards of Health of your County as efficient and vigilant as desirable; if not, what are the apparent causes?

2. Would reduction of the number of Boards, by adopting the County as the organizing unit, give better results.

3. Would the change in the position and circumstances of Health Officers, by the removal of political influences, as far as possible, and ensuring permanency in office with adequate compensation, tend to greater efficiency?

Replies to these questions, as much at length as possible, with added suggestions, are specially desired from each County Society by this Committee.

All replies should be sent to the Chairman, E. V. Stoddard, M. D., Rochester, N. Y., as early as possible, and not later than January 10, 1890.

E. V. STODDARD, M. D.,
A. N. BELL, M. D.,
WM. B. BROWN, M. D.,
J. P. CREVELLING, M. D.,
WM. H. BAILEY, M. D.,
WM. C. BAILEY, M. D.,
E. F. BRUSH, M. D.,
Committee.

It is also desired that as many individual replies to the above as possible be sent to the Committee at an early date, without regard to the limit of time named. We hope that all who see this will consider it as specially addressed to them, and respond to this important matter with cheerful promptitude. That the efficiency of the local Boards of Health throughout the State needs increasing, goes without question; that the proper medium for the profession to move through in this important matter is the Committee on Hygiene of the State Medical Society, and so to the State Board of Health, and on to the Legislature, goes equally without question. If we ever attain a degree of excellence in the field of preventive medicine, we must, as a profession, strengthen and amplify the powers of our local Boards of Health, and, moreover, yield them cordial and loyal support in the discharge of their functions.

How Much should a City Pay Its Health Officer?—The Michigan State Board of Health has recently published a paper by its Secretary, Dr. H. B. Baker, in which he asks the question: How much can the average city or village afford to pay its Health Officer? He answers this question in this way:

> Statistics, which cannot be questioned, prove that in those localities in Michigan where the recommendations of the State Board of Health are carried out, about eighty per cent. of the deaths from diphtheria and scarlet fever are prevented by the thorough isolation of all infected persons, and the thorough disinfection of all infected persons, things, and places. Statisticians usually value a person in the prime of life as worth to the community about $1,000.

Dr. Baker thinks that, in a village of 1,500 inhabitants, a health officer can easily save the lives of two children and one grown person in each year, and he concludes that such a village can well afford to pay its health officer $2,000 for the prevention and restriction of scarlet fever, diphtheria, and typhoid fever—and make money by the transaction.

At the recent election in France, twenty-two physicians were elected on the first ballot for seats in the Chamber of Deputies. The second final ballot will elect as many more, it is predicted.

Personal.

Dr. Frank S. Billings, late in charge of the patho-biological laboratory of the State University of Nebraska, has removed to Chicago, Ill., to resume his life-work—the mastery of the non-recurrent diseases of children—scarlet fever, mumps, measles, whooping-cough; and he hopes to ultimately establish free hospitals in Chicago for the treatment of these diseases among the poor.

Dr. Billings has fitted up a laboratory at 3600 Michigan avenue, in which he proposes to manufacture virus for the inoculation of swine against hog cholera, and to continue the study of that subject in all its branches. The importance of such a laboratory to the stock breeders of the country cannot well be over-estimated.

Dr. W. P. Manton was elected President of the Detroit Gynecological Society at its fifth annual meeting held Wednesday evening, October 23, 1889. The other officers of this flourishing society, chosen for 1890, were: Vice-President, A. W. Turvie, M. D.; Secretary and Treasurer, W. R. Chittick, M. D.

Dr. Charles P. Clark, a graduate of the Toronto University, has been appointed Demonstrator in Chemistry in the Niagara University Medical College. Dr. Clark has opened his office at No. 70 West Genesee street.

Dr. E. T. Dorland, accompanied by his son, is enjoying the delights of foreign travel. He will return in November, and resume his professional work in this city.

Dr. Joseph C. Greene has returned from his tour around the world, and resumed his practice at 124 East Swan street, in this city.

Society Meetings.

The Medical Society of the State of New York.—The next annual meeting will be held in Albany, February 4–6, 1890. The Business Committee has been appointed as follows: Dr. Geo. H. Fox, 18 East Thirty-first street, New York; Dr. Henry Flood, Elmira; Dr. Herman Bendell, Albany.

Applications should be made *before January 1st* by those desiring to secure the proper arrangement of time and subjects. Papers should not exceed fifteen minutes, and the title should accompany the application, which may be made to any member of the committee.

DANIEL LEWIS, *President.*

62 Park avenue, New York, October 10, 1889.

The American Association of Obstetricians and Gynecologists, at its recent annual meeting, held in Cincinnati, O., elected the following officers to serve for the ensuing year:

President—Dr. E. E. Montgomery, of Philadelphia.

Vice-Presidents—Drs. William H. Myers, of Fort Wayne; Dr. R. L. Banta, of Buffalo.

Secretary—Dr. William Warren Potter, of Buffalo.

Treasurer—Dr. X. O. Werder, of Pittsburgh.

Executive Council—Drs. A. Vander Veer, of Albany; Clinton Cushing, of San Francisco; Chas. A. L. Reed, of Cincinnati; William H. Wathen, of Louisville; Hampton E. Hill, of Saco, Me.

The third annual meeting will be held in Philadelphia, beginning on the *third Tuesday* in September, 1890.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.—Dr. C. H. Mastin, of Mobile, who may be said to be the father of this organization, set a wholesome example in the ground he took, at the recent meeting of the Executive Committee, for declining the nomination to the presidency. He is reported as having said that no member of the Executive Committee ought ever to be elected to the presidency. Thereupon Dr. S. Weir Mitchell, of Philadelphia, was chosen President, and Dr. William H. Carmalt, of New Haven, Secretary. The next meeting is to be held in Washington, in September, 1891.—*New York Medical Journal.*

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION will hold its second annual meeting in Nashville, Tenn., November 12, 13, and 14, 1889. This meeting will, no doubt, be a successful one, as upwards of thirty papers, by distinguished authors, are announced.

THE MCDOWELL MEDICAL SOCIETY will hold its annual meeting at Henderson, Ky., November 11 and 12, 1889.

Obituary.

PROFESSOR RICORD, of Paris, known generally as "the great Ricord," the father of modern syphilography, died in Paris, Oct. 22, 1889. He was an American by birth, his birthplace being Baltimore, Md.

Book Reviews.

Cyclopedia of the Diseases of Children—Medical and Surgical. The articles written especially for the work by American, British, and Canadian authors. Edited by JOHN M. KEATING. Vol. II. Illustrated; 8vo, pp. xii., 1066. Philadelphia: J. B. Lippincott Co. 1889.

The favorable opinion expressed in the August number of the JOURNAL, on the appearance of the first volume of this work, is fully maintained by the study of this second volume, and we can but reaffirm that opinion here. In calling attention to the merits of the work, a critical and complete review of each contribution seems to be out of place. There are no less than sixty-seven separate articles in the present volume, and it will be impossible, in the space at command, to notice them all. By calling attention to a few of them, the general high character of the work may be indicated, and that will accomplish our purpose. The present volume is divided into five

parts. Part I. considers the Diseases of the Skin, and is very full and complete. As the care of the skin in infancy is of great importance, so also is a knowledge of its maladies. As far as this can be taught from books, we can find that knowledge here. Of special interest are the articles on Nevus, or Birth-Mark, by Lewis S. Pilcher, of Brooklyn, and on Syphilitic Skin Affections, by J. E. Atkinson, of Baltimore.

Part II. deals with Constitutional Diseases, and Diseases of Nutrition. We find here articles on Scrofulosis, Tuberculosis, Syphilis, Rachitis, Scurvy, Cretinism, The Urinary Diatheses, and Diabetes Mellitus.

The importance of a clear understanding of these subjects cannot be over-estimated, and this entire part will well repay careful study. Particular attention is directed to the articles on Scrofulosis, by Henry Ashby, of Manchester; on Tuberculosis, by A. Jacobi, of New York; on Rachitis, by Thomas Barlow, of London, and Judson S. Bury, of Manchester; and on the Urinary Diatheses, by the late J. Milner Fothergill. We understand from the editor that this was Dr. Fothergill's last contribution to medical literature, and that his death was announced a few days after the manuscript was received. It considers the subject under three heads, viz.: Oxaluria, Phosphaturia, and Lithuria. Its introduction is as follows: "This article is an attempt to gather together what is known of an interesting subject not nearly so carefully studied as it was half a century ago, and as it probably will be less than half a century hence. On the first two matters, our knowledge is in a fragmentary condition, especially as to oxaluria. On the last subject, we are in possession of considerable knowledge." His conclusions in regard to oxaluria are thus presented: "It is rather a matter of scientific curiosity, with its octahedral and dumbbell crystals, than of clinical value, and some excellent works on diseases of children say nothing about oxaluria. The sort of child most likely to present it is that to be described at some length in the section on Lithuria, and the reader will find that its associations are those of systemic debility." Further on, in the course of his remarks on Phosphaturia, it is stated that "A great deal has been written and said about phosphatic deposits, but we seem to know very little more than what we find in the urine, and its behavior; and this has more interest for the curious inquirer than practical value for the physician. The views promulgated by Prout have not stood the test of time." These quotations will serve to express the present state of our knowledge on these two subjects. With lithuria, however, it is different. Although Dr. Fothergill's views on lithuria are well known, it will repay any one to study his latest words upon it. Starting from the

point that "Lithogenesis is Reversion," he considers it as to its etiology, its diagnosis, its pathology, and its treatment. We cannot follow him, at this time, through these interesting pages, and have space but for his general conclusion, viz.: "The subject can easily be summed up. The newly-born child possesses the uric-acid formation as a normal matter. But it gradually outgrows or rises above this lowly formation, and leaves it behind at puberty, *i. e.*, if it is equal to the urea-formation. A delicate child fails to achieve this, and it then becomes our duty to give it the requisite help, if we possibly can, by the application of the principles just laid down."

Part III. treats of the Diseases of the Respiratory Tract, and opens with a classic paper on Nasal Obstruction, by John N. Mackenzie of Baltimore. If the general physician would study the principles here inculcated, he would appreciate, more than is apparent at present, the disastrous consequences to the organs of respiration, audition, and voice-production that may arise from the obstruction of the nasal passages. He says, truly, that but few of the older writers recognized the complications occurring from obstruction of the nostrils, and that even now the full recognition of these evils is limited principally to those whose special studies have led them in this direction. And again, "Many an aural catarrh has been allowed to end in hopeless deafness, many a naso-laryngeal inflammation has become inveterate and incurable, from failure to recognize the evils which result therefrom; and were the statistics of such cases carefully compiled, they would appear to many in the form of a revelation."

Following this article, we find considered in their order the various diseased conditions as seen in the nose, in the pharynx, in the larynx, and in the lungs. These are studied with special reference to their occurrence in children. So far as our knowledge extends, this is the only place where such a collection of essays can be found. Thirty-two out of the sixty-seven articles in the volume are found in this part, which will indicate, to some degree, the thoroughness of the work. To appreciate it fully, each article must be investigated by the reader himself.

Part IV. presents the Diseases of the Circulatory, Hematopoietic, and Glandular Systems. The opening article is on Functional Disorders of the Heart, by J. M. Da Costa, of Philadelphia. Following this, the Congenital Affections of the Heart are considered by William Osler, of Baltimore. This article is finely illustrated, and is of great practical importance. Special mention, also, should be made of the essays on Endocarditis, Acute and Subacute, by W. B. Cheadle, of London, and Myocarditis and Cardiac Aneurism, by J. Mitchell Bruce,

also of London. The last one contains some superb illustrations, and cannot fail to be appreciated.

The title of Part V. is Diseases of the Mouth, Tongue, and Jaws. The first article, upon the Diseases and Care of the Teeth, is from the pen of Edwin T. Darby, of Philadelphia, and contains many suggestions which will be of assistance in the treatment of these organs. Dr. Roswell Park, of this city, contributes the next article, upon the Congenital Defects and Deformities of the Face, Lips, Mouth, Tongue, and Jaws. Like all Dr. Park's work, it is concise, and, at the same time, thoroughly well done. He begins with some brief considerations of the embryology of the parts, and then presents in detail the deformities seen in each of the organs mentioned. Many illustrations add to the value of the article. The other articles in this part are: Diseases of the Mouth, by W. W. Allchin, of London; Hare-lip and Cleft-palate, by J. Ford Thompson, of Washington; and Injuries and Diseases of the Jaws, by J. Ewing Mears, of Philadelphia.

We trust enough has been said to indicate the high character of the volume, and to stimulate all those who desire the latest thought of the profession on the subjects upon which it treats to become students of its pages.

It is a credit to the publishers, to the editor, and to the various contributors. F. H. P.

Ophthalmology and Ophthalmoscopy, for Practitioners and Students of Medicine. By Dr. HERMANN SCHMIDT-RIMPLER, Professor of Ophthalmology, and Director of the Ophthalmological Clinic in Marburg, Germany. Edited by D. B. ST. JOHN ROOSA, M. D., LL. D. New York: Wm. Wood & Co., 56 and 58 Lafayette place. Pp. 571.

It is with some degree of pleasure that the reviewer is brought face to face with the English translation of Schmidt-Rimpler's excellent treatise on Ophthalmology. Having many times been obliged to consult it as a text-book during his career in the German universities, where it ranks as highest authority, he is able to testify to its great merit.

The affiliation of D. B. St. John Roosa, of New York, to this work, as editor, bespeaks for it a scientific worth of the highest order. In its native tongue, it has passed through two large editions; this, the third, has been subjected to careful revision, and changed in accordance with the constant increase of ophthalmological study. The author divides his treatise into four parts.

Part I. treats of General Observations on the Examination and Treatment of the Eye, Errors of Refraction and Accommodation, Amblyopia, and Amaurosis. This part of the work has been revised but little, and contains few annotations from its American editor. The

laws of Optics, as applied to accommodation and refraction of the human eye, are lucidly described, and are accompanied by many excellent illustrations.

Part II. treats of Ophthalmoscopy, Ophthalmoscopic Appearances in the Healthy Eye, and Diseases of the Optic Nerve, Retina, Choroid, and Vitrous Body.

The Diseases of the Internal Eye are accompanied by three full-page colored plates, containing eighteen representations of the most common affections of the fundus.

Part III. is devoted to the discussion of Glaucoma, Diseases of the Lens, Conjunctiva, Cornea, Sclera, Iris, Ciliary Body, and Sympathetic Affections.

Author and editor disagree in the use of weak solutions of nitrate of silver in the new-born. The author encourages the practice, so general in Germany, of instilling into the eyes of all new-born a drop of two-per-cent. solution of nitrate of silver, as prophylaxis against Blenorrhea neonatorum. The editor advises against the use of nitrate of silver, in any form, in any of the earlier periods of this disease.

Part IV. treats of Diseases of the Ocular Muscles, Orbits, Eyelids, and Lachrymal Apparatus.

Numerous admirable illustrations adorn this and the preceding parts of the work, many of which are taken from Stellwag's treatise.

The typography of the work is excellent, and is in keeping with the other works on "Specialties in the Practice of Medicine."

W. C. K.

Wood's Medical and Surgical Monographs. Vol. IV., No. 1. October, 1889. New York: William Wood & Company, 56 and 58 Lafayette place. Published monthly. Price, $10.00 a year; single copies, $1.00.

The contents of the current number of this interesting work embraces the following titles: The Influence of the Male Element upon the Female Organism, by John Brown, M. D.; The Internal and External Temperature of the Human Body as Modified by Muscle-Kneading, by A. Symons Eccles, M. B.; The Disease of the Breast, by Thomas Bryant, F. R. C. S.

The first essay was read before the Glasgow Southern Medical Society, March 8, 1888, and is an interesting study of this abstruse question. The views of the author are fortified by observations of Darwin and others, in experiments upon plants and animals. His conclusions are "that the male element has an influence upon the female, over and above its fertilizing influence upon the ovum. . . The limits of that influence are at present unknown. The wide range suggested by Dr. Harvey (fetal inoculation) is by no means proven,

but is quite probable; the evidence does not entitle us to go beyond this."

The subject of the second essay, read in the Section of Anatomy and Physiology, at the annual meeting of the British Medical Association, held in Glasgow, August, 1888, is a novel one, and will prove interesting in connection with the therapeutic application of massage.

The bulk of this number, 288 pages, is devoted to Diseases of the Breast, and is illustrated with thirteen engravings and four chromolithographs. It is by far the most exhaustive treatise of the subject that has yet appeared in literature, and is well worthy its distinguished author. The name of Thomas Bryant is a guaranty of meritorious and instructive work in any field that he consents to enter with his pen, and he never wields it with an aimless purpose. When Bryant writes, it is because he has something to say, and he says it with such scholarly grace and conciseness, that it makes delightful as well as helpful reading.

The interest in this valuable series is well maintained in the present number, and it should meet with increased patronage.

An Introduction to Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D. Sixth American, from the seventh English, edition. Revised and Enlarged by STANLEY BOYD, M. B., B. S., F. R. C. S., London, England. Philadelphia: Lea Brothers & Co. Pp. 539. 1889.

As a popular text-book on Pathology, perhaps none can excel Green's, as the number of editions through which this book has passed easily testifies. The seventh edition, edited under the direction of Dr. Boyd, has been in many places rewritten, in order to keep pace with recent pathological and bacteriological observations. The book has otherwise been improved by the addition of new illustrations and the use of larger type.

In the introduction, the writer dwells upon the action of cells in a healthy state, and their transformation into disease. The question as to whether the nervous system influences those chemical changes in which the life of cells, other than gland, muscle, and nerve, consists, remains unanswered; the author inclines to the belief that it most probably does.

Disease, or the abnormal performance of function by one or more organs or tissues, is discussed from its different standpoints, before proceeding with the special forms of disease. The opening chapters treat of Necrosis, or nutrition arrested; Degeneration, or nutrition impaired; and Hypertrophy, or nutrition increased.

The Neoplasms are next taken up, and, in a clear and masterly style, are made interesting reading for those who have occasion to

refer to these subjects. Not only through the style of the writer, but in typographical arrangement and selection of illustrations does this treatise owe much of its popularity.

The chapters on Fever and Inflammation embrace the latest theories in regard to these processes; the writer seems inclined to accept the views of MacAlister, who considers thermogenesis as the result of tissue oxidation under control of the cerebro-spinal system of nerves.

Under the Infective Granulomata are discussed Tubercles and Tuberculosis, Syphilis, Scrofula, and Leprosy.

Inflammation of the Special Tissues and Organs comprises the several inflammatory conditions, and although treated rather briefly, yet are sufficient to convey to the reader the most salient points of their pathological character.

The closing chapters deal with the Vegetable Parasites, their natural history, mode of life, directions for their detection and cultivation.

As a text-book, this pathology is to be recommended. Without going into the finer detail of pathological changes, it nevertheless presents the subject as complete and concise as is consistent with a work which claims to be nothing more than an introduction to the study of pathology.

The publishers have left nothing undone to make this work, from a typographical standpoint, as attractive as possible, and is a credit to the house. W. C. K.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M. D., LL.D., F. R. C. P., Professor of Obstetric Medicine in King's College; Physician for the Diseases of Women and Children to King's College Hospital, etc., etc. Fifth American, from the seventh English, edition, with notes and additions by ROBERT P. HARRIS, M. D., with five plates and 207 illustrations. Philadelphia: Lea Brothers & Co. 1889.

A new edition of this standard work on the science and practice of obstetrics "sufficiently Americanized upon the points where English and American obstetricians differ in opinion and practice, to fit it for the uses of American students and obstetricians," will be hailed with pleasure by all who are interested in this department of medicine. Playfair's work has always been favorably received by the profession, and its conservatism has made its teachings a safe guide in obstetric procedures. The author has the merit of conciseness and clearness, which makes this work a *multum in parvo*, and, therefore, of special value to the busy physician.

The editor in this edition has added the obstetric nomenclature adopted at the International Medical Congress, held in Washington in 1887, which we regard with special favor, inasmuch as it will lead to uniformity in obstetric terms—a result to be desired by all students.

The Porro-Cesarean operation, the conservative Cesarean operation, and the recent advances made in the treatment of extra-uterine pregnancy, are subjects which the editor in this edition has brought down to the close of the year 1888, while many of the American additions have been either rewritten or remodeled, and many new short notes added when required to clear up the various subjects treated.

New illustrations and plates have been added, making the work more valuable to students especially, than the previous editions.

Upon the whole, this edition has been greatly improved over those preceding, and the work may well rank among the best offered to the student or practitioner. The American editor has performed the task assigned him with good judgment and ability, and Playfair's Obstetrics, under the auspices of the great publishing house that issues it, will maintain the high reputation which its merits and conservatism well deserve.

Photographic Illustrations of Skin Diseases—An Atlas and Text-Book combined. Second Series, complete in twelve parts. By GEORGE HENRY FOX, A. M., M. D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York. Hand-colored plates; nearly 100 cases from life. New York: E. B. Treat, No. 771 Broadway. New York: Parts IX. and X. Price, $2.00 each.

Part IX. concludes the article on Hypertrichosis from Part VIII. of this series, and then furnishes an excellent plate of hypertrophy of the nails. The atrophic diseases are then taken up, and Albinismus, Leucoderma Canities, and Alopecia are treated. Chapter VI. is devoted to the consideration of neoplastic diseases, as Cicatrix, Keloid, and Fibroma, the latter being continued in Part X., which also treats of Xanthoma, Neuroma, Telangiectasis, Nevus Vasculosus, Angioma, Lupus Vulgaris and Erythematosus, Scrofuloderma, and Syphilis.

The plates are good illustrations of the diseases of which the text treats, and afford a clearer insight into this obscure and difficult subject than could be obtained by the physician in any other way.

We think the author is performing a useful service to the profession in this work, and we commend it as meritorious and valuable. The plates and press-work are unexcelled.

Lectures on Obstetric Nursing, delivered at the Training School for Nurses of the Philadelphia Hospital. By THEOPHILUS PARVIN, M. D., Professor of Obstetrics and Diseases of Women and Children, at Jefferson Medical College. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1889. Buffalo: Peter Paul & Brother. Price, 75 cents.

This little work contains the practical experience of one of the best American teachers on the subjects of which it treats, and, like all of the author's writings on the science and art of obstetrics, is clear and practical, and clothed in the choicest language. It is full

of excellent advice, the result of his long and successful practice, to nurses on the duties devolving upon them in the management of the patient during labor, of their responsibilities, and especially of the loyalty they owe to the accoucheur. The second lecture treats briefly of Sepsis and Antiseptics, the preparation of the bed, the sanitary condition of the lying-in-room, etc. We find so much to endorse in the work that we wish it could be placed in the hand of every nurse, who cares for parturient and puerperal women, and who is zealous for wise counsel in her responsible position.

The Nervo-Vascular System. Arranged by W. HENRY PRICE and S. POTTS EAGLETON. Examined and approved by John B. Deaver, M. D., Demonstrator of Anatomy in the University of Pennsylvania. Philadelphia: F. A. Davis, publisher. 1889. Price, fifty cents.

These are three admirably arranged charts for the use of students, to assist in memorizing their anatomical studies.

Part I., The Nerves, gives, first, the number, name, function, superficial origin, foramen of exit, and principal distribution of the cranial nerves; then come the spinal nerves, and the sympathetic nerve, all tabulated in large plain type.

Part II., The Arteries, and Part III., The Veins, are similarly arranged, and all can be framed or otherwise hung upon the wall, to be readily seen and studied at odd moments, or to be examined in connection with other subjects.

BOOKS AND PAMPHLETS RECEIVED.

A Text-Book of Human Physiology, including Histology and Microscopical Anatomy; with special reference to the Requirements of Practical Medicine. By Dr. L. Landois and William Stirling, M. D., Sc. D. Third American, translated from the sixth German, edition. Philadelphia: P. Blakiston, Son & Co. 1889.

A Text-Book of Animal Physiology, with introductory chapters on General Biology and a full Treatment of Reproduction. For students of Human and Comparative (Veterinary) Medicine, and of General Biology. By Wesley Mills, M. A., M. D., L. R. C. P. (Eng.), Professor of Physiology in McGill University and the Veterinary College of Montreal. With over 500 illustrations. New York: D. Appleton & Co. 1889.

A Manual of Chemistry for the Use of Medical Students. By Brandreth Symonds, A. M., M. D. Philadelphia: P. Blakiston, Son & Co. 1889.

The Story of the Bacteria and their Relations to Health and Disease. By T. Mitchell Prudden, M. D. New York and London: G. P. Putnam's Sons. 1889.

The Urine, The Common Poisons, and The Milk. Memoranda, Chemical and Microscopical, for laboratory use. By J. W. Holland, M. D. Illustrated. Third edition. Philadelphia: P. Blakiston, Son & Co. 1889.

The Surgeon's Handbook. By Francis M. Caird, M. B., F. R. C. S., and Charles W. Cathcart, M. B., F. R. C. S. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1889.

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By various writers. Illustrated by chromo-lithographs and fine wood engravings. Edited by Alfred H. Buck, M. D. Volume VIII. New York: William Wood & Co.

Chemistry: General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopeia. A Manual on the General Principles of the Science and their Applications in Medicine and Pharmacy. By John Attfield, F. R. S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain. Twelfth edition. Philadelphia: Lea Brothers & Co. 1889.

The Value of Creosote in Fifty cases of Disease of the Air Passages. By Wm. P. Watson, A. M., M. D. Jersey City, N. J.

Practical Notes on Urinary Analysis. By William B. Canfield, A. M., M. D. Reprint from the *Maryland Medical Journal.* Baltimore.

Ninth Inaugural Address of Clark Bell, Esq., as President of the Medico-Legal Society. Reprint from *Medico-Legal Journal.*

Monomania. By Clark Bell, Esq. Reprint from the *Medico-Legal Journal.*

The Duties and the Compensation of the Local Health Officer. By Henry B. Baker, M. D., Secretary of the State Board of Health, Lansing, Mich. Reprint from the Report of the Michigan State Board of Health, 1889.

Suicide and Legislation. By Clark Bell, Esq. Reprint from the *Medico-Legal Journal.*

Medico-Legal Society of the City of New York. Constitution and By-Laws.

Urinary Calculus and Lithotomy. By Thos. W. Kay, M. D., Scranton, Pa. Reprint from the *Maryland Medical Journal.*

Résumé of the Experience of Seventeen Years in the Operation of Dilating Urethrotomy. By Fessenden N. Otis, M. D. Reprint from the *New York Medical Record.*

The Purulent Conjunctivitis of Infants and Blindness in New York State. By Lucien Howe, M. D. Reprint from the Transactions of the New York State Medical Society. 1889.

The "Perfected Evacuator." By Fessenden N. Otis, M. D. Reprint from the *New York Medical Journal.*

Observations and Experiences involving Rectal Diseases. By E. F. Hoyt, M. D. Read before the New York Medical Society, 1889.

Cases of Suprapubic Cystotomy. By L. Bolton Bangs, M. D. Reprint from the *New York Medical Journal.*

Studies in Intestinal Surgery. By Wm. B. Van Lennep, A. M., M. D., Philadelphia, Pa. Reprint from the *Hahnemannian Monthly.*

Some of the Relations of Humane Societies to Institutions having the Care of Children. Read at the Annual Meeting of the American Humane Association, 1889. By E. V. Stoddard, M. D.

Medical Department University of Wooster, Announcement for 1890. Cleveland, Ohio.

Twenty-third Annual Announcement and Catalogue of the Winter Course of Instruction of the Medical Department of the University of Vermont. Session of 1889–'90. Burlington.

Thirty-fourth Annual Announcement of the Kentucky School of Medicine, Louisville. Session of 1890.

State Board of Health Bulletin, Nashville, Tenn. September 20, and October 20, 1889.

Monthly Bulletin of the New York State Board of Health. August, 1889.

Report of Deaths and Contagious Diseases for the Months of August and September, 1889. Newport, R. I.

Health in Michigan. September, 1889.

Weekly Abstract of Sanitary Reports. Volume IV., Nos. 39, 40, 41, and 42.

Literary and Other Notes.

Some time ago the *Detroit Free Press* offered $3,000 in prizes for the three best serial stories sent in before July 1st. The result of this competition has been that Major Joseph Kirkland, of Chicago, Ill., has taken the first prize of $1,600. His story is entitled, "The Captain of Company K." Mr. Kirkland is the author of "Zury, the Meanest Man in Spring County," "The McVeys," and other stories. The second prize goes to Omaha, Neb., and is taken by Mrs. Eliza W. Peattie. Her story is entitled "The Judge." The third prize of $500 was awarded to Elbridge S. Brooks, of Boston, Mass. The title of this story is, "The Son of Issichar."

The Transatlantic—A Mirror of European Life and Letters—Vol. I., No. 1, October 15, 1889.—*The Transatlantic* is a new magazine, issued on the 1st and 15th of each month, devoted to European literature. Its aim is to place before the English-speaking public all that is best of European life and letters. The first number contains a fine portrait of Henrik Ibsen, the Norwegian dramatist and poet, and also the first act of a play from his pen.

The Transatlantic has only to equal its first number to be one of the first magazines of the land. Published by the Transatlantic Publishing Company, Boston.

The American Academy of Medicine is endeavoring to make as complete a list as possible of the Alumni of Literary Colleges, in the United States and Canada, who have received the degree of M. D. All recipients of both degrees, literary and medical, are requested to forward their names, at once, to Dr. R. J. Dunglison, Secretary, 814 North Sixteenth street, Philadelphia, Pa.

The Microscope, so long and ably edited by Dr. W. P. Manton, and his associates, and published in Detroit, has been removed to Trenton, N. J., from whence it will now issue. Dr. Alfred C. Stokes assumes its editorial management.

Buffalo Medical and Surgical Journal

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Original Communications.

THE RECTIFICATION OF FACE PRESENTATIONS.[1]

By ROLLIN L. BANTA, M. D., Buffalo, N. Y.

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Because of the uncertainties of the prognosis in face presentations, many manœuvres have been proposed for the conversion of the latter into normal presentations. Though occasionally successful, they have been discountenanced by most obstetric writers, because experience has shown the results to be by no means commensurate with the dangers incurred.

This quotation, taken from one of our latest obstetrical writers, seems to be, as far as my observation goes, the sentiment of most of the eminent obstetricians of the present day. All agree that face births are abnormal births, and although this form of labor may be a very simple one, as a rule, it is attended with more danger to the mother, and is manifoldly more dangerous to the child. Also, it seems to be almost the unanimous opinion that the various methods proposed by such men as Meigs, Baudelocque, Hodge, and lately by Shatz, either on account of the difficulties or the dangers which occur in putting them into practice, have not succeeded in fulfilling the hopes entertained by their originators; and, all things being considered, it is better to trust to nature than to any manipulation, although, in a great many cases, nature makes pretty bad work of it, and often is utterly unable to accomplish her object, without the aid of art. My own experience is so at variance with these teachings that it is to be hoped that it will not seem presumptuous in my claiming that face presentations can be rectified by internal manipulation; and that an abnormal and tedious labor can be easily and safely changed into a normal and simple one, thereby saving much suffering to the mother, and danger to the child.

If, at times, a beaten path is gone over on the plan presented in this paper, it is hoped enough of the new is added, and the whole so

1. Read at the annual meeting of the American Association of Obstetricians and Gynecologists in Cincinnati, O., September 17, 1889.

simplified and methodized, that a claim can be made of touching at least the boundary line of originality.

For convenience of description, and for the reason that the writer has found it to answer his purpose so admirably—and, moreover, because it is believed to be right—a brief sketch of the anatomy of the female pelvis, as taught by the late Dr. Henry C. Landis, is here given.

If the sacral and iliac wings of the female pelvis be removed, the inlet presents an appearance as shown in Fig. 1.[1] For all practical purposes, the outlet has a shape as shown in Fig. 2. If these two figures be combined, and drawn lines to indicate the pelvic walls, we have an outline as shown in Fig. 3. If, now, a cardboard be cut out having the shape of a section of the middle circumference of the flexed head, it has the shape of an ellipse, as shown in Fig. 2, which also represents the outlet. If the card is now applied to the inlet, it is found that it completely coincides with it on one side, and, if reversed on the other side, the two outlines intersect each other.

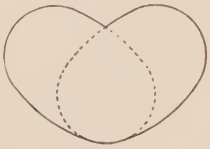

Fig. 1.

It, therefore, requires but a slight stretch of the imagination to see that the inlet, instead of being an irregular oval, as is generally described, is, indeed, "beautifully regular in outline, and that the pelvis contains two canals, each of the same outline or calibre as the fetal head, and a little larger. These canals are partly divergent above, and entirely identical at the outlet," as shown in the theoretical diagram (Fig. 3). The one containing the right oblique diameter is called the right canal, the opposite one the left canal. The head, in labor, passes into one o these canals, and, as it descends into the pelvis, it is, of course, followed by the shoulders, also having an elliptical outline, which enter the other canal. Before the shoulders descend very far, the head is born, showing there is need of one canal only at the outlet.

Fig. 2.

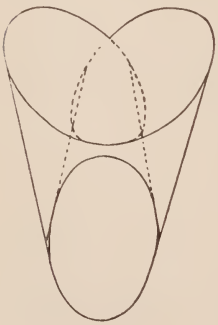

Fig. 3.

One more glance at the pelvis, in order to call attention to certain spaces bounded in front by imaginary lines drawn from the base of each sacro-iliac arch, as shown in Fig. 4. These lines may be called the sacro-cotyloid diameters, and the spaces posterior to them, for want of a better name, the sacro-cotyloid spaces. They

1. Figures 1, 2 and 3 are taken from Dr. Henry C. Landis' "How to Use the Forceps."

are situated at the posterior part of the right and left oblique diameters, or, in other words, at the posterior part of the right and left canals. At the inlet they are quite conspicuous, and become smaller as the canals merge into one ; so that a body occupying one of the canals, there is necessarily left at the posterior part of the other a free space, which disappears as the body descends into the pelvis. Special attention is called to this space, as it has an important bearing on what follows.

Fig. 4.

Face births are divided into anterior and posterior presentations. When the chin presents anteriorly, if the pelvis is large, the head small, or the neck long, there is usually no difficulty in delivery ; but, if otherwise (and how any one can tell the size of the head or neck before delivery, has never been in my power to discover), then the birth becomes a more serious matter. A body having a diameter of about seven inches, must be forced through a tube, the longest diameter of which is a little over four inches. The characteristic appearance of the child's head after a face birth shows the great amount of moulding which must take place before delivery is accomplished. If, then, a certain number of anterior face presentations are so serious in their nature, any procedure which will safely rectify and make them normal will certainly be a boon to the mother, saying nothing of the avoidance of the dangers which threaten the child. Such a procedure it is now my intention to describe, and it has been put to a test often enough to leave, in my opinion, no doubt of its efficacy.

It is not questioned for a moment that quite a proportion of face presentations are easy births ; but to tell just which ones to interfere with, is a question extremely difficult to decide ; therefore, would it not always be better to rectify them as early as possible, especially as there is not the slightest doubt that those cases which nature can take care of are easily managed, while those of a more serious character must often depend upon artificial aid ?

Before proceeding further, it will be well to state that the application of the method under consideration necessitates that the head is movable and not impacted in the pelvic cavity, and that the cervix is dilated, or sufficiently dilatable, for the introduction of the hand into the uterus.

In the first face presentation, L. M. A., the face is in the right canal, and the trachelo-bregmatic diameter of the face corresponds to the long diameter of the right canal, or to the right oblique diameter of the inlet (German nomenclature). Even at the inlet, the face entirely fills this canal. As the head descends, the anterio-posterior

diameter of the neck, about three inches, is added to the depth of the cranium or to the suboccipito-bregmatic diameter of the head, about four inches in length. Now begins the process of a body, having a diameter of seven inches, being forced through a passage of about four inches, which, if left to nature, is accomplished by a great amount of force and moulding of the parts, and only then when certain favorable conditions, before mentioned, are present. A glance at the other canal shows that it is occupied by the bimalar or transverse plane of the face, but, on account of the smaller size of this diameter or plane, measuring a little over three inches across, there is left at the posterior part of this canal a free space, the left sacro-cotyloid space. It would seem, on first thought, if there were any internal manipulations to be made above the brim, it would be best to pass the right hand through this unoccupied space; but to reach the posterior part of the head, which will be seen in a moment is one of the main objects to be attained, it would be necessary to pass the hand from one side of the pelvis to the other, over or under the shoulders or body of the child, which for any practical purposes would be impossible.

In order, then, to manipulate the occiput or extended head which occupies the right sacro-cotyloid space, the left hand is passed into the vagina and uterus (if need be) on the right side of the pelvis wall back until it is stopped by the forehead or vertex. By now placing the fingers around the vertex, or, for that matter, any part that can conveniently be grasped, only remembering that the hand is on the right side and to the posterior, enough force can be used, and only the slightest amount of force is required, to rotate the head anteriorly about a quarter of a circle, when the chin will look posteriorly and the face will be in the left canal. At the same time, and, perhaps, just before the attempt is made to rotate, the head is pushed up sufficiently so that the chin will be well above the brim. This is a very important point to remember if the head is large or the pelvis small, and even if that is not the case, it may save considerable trouble in the after-manipulations. The face is now in the L. M. P. position, which is considered one of the most difficult for delivery. There is also at the posterior part of the right canal a free space, the right sacro-cotyloid space, through which the hand is passed and placed well over the occiput. The next step is to bring about flexion, which is not always easily accomplished on account of the cramped position of the internal hand.

Every obstetrician is well aware of the fact that occasionally it is almost impossible to keep the hand within the contracting uterus for any length of time, and if there is work to do it must be done quickly,

or the hand withdrawn for a rest. This difficulty can usually be overcome by placing the free, or right hand, over the abdomen of the mother and over the left internal hand, when flexion, or, for that matter, extension, can be made at will. After flexion the presentation is R. O. A., or the old second position. The right hand is an important factor in this manœuvre, for it not only aids the left hand in flexing the head, but it also helps to push it well down into the pelvic cavity. If flexion does not readily occur, it is because the chin has not been forced high enough above the brim and it is stopped at some point of the pelvic walls. If there is any fear that extension will again take place, and that is liable to happen only when there has been a failure to force the flexed head well down into the pelvis, either the hands should be kept in place for a few pains, or the forceps applied and enough traction made to prevent that danger. A knowledge of the manner of proceeding in the position just described—the first face position—is the key to the other three, consequently only a few remarks need be made concerning each of them.

In the R. M. A. position the face is in the left canal, and now, for the same reason, the right hand is used instead of the left. The occiput is brought to the front in the same manner, and having passed the hand through the left sacro-cotyloid space, the head, with the aid of the left or free hand, is flexed and pushed down into the pelvis, which changes the position into the L. O. A., or old first position.

In mento-anterior positions when the child's back looks posteriorly, forced anterior rotation of the head may twist the child's neck disagreeably and perhaps dangerously; but in the cases which have come under my observation, rotation of the body has always accompanied rotation of the head. The judgment of the past and present is adverse to any interference with anterior face presentations, but the certainty that experience gives one of doing a thing safely and well has robbed for me that variety of births of any anxiety when called to attend them. With our knowledge of modern antiseptics, the introduction of a clean hand into the uterus, through a clean vulva and vagina, is entirely devoid of danger as far as carrying any septic material is concerned. Adding to this a certain amount of skill, which every practitioner is supposed to possess, there is scarcely any doubt of the successful application of the rules just described.

Regarding mento-posterior presentations, my method of rectification is so similar to that described by others, that if it were not for some change in the technique of the manipulations, it would hardly be worthy of repetition. Sometimes a few slight additions to an operation will make easy what was before difficult. At any rate, four

posterior presentations, one of them a brow, which may be considered a variety of face birth, have been rectified by the following plan with the happiest results, only one causing any considerable trouble:

Nature's method of delivery, when the chin looks to the posterior, is anterior rotation, and if that does not take place, Nature is unable to finish her task, unless under very unusual circumstances; because the "forehead remains stationary at the first part of the brim, while the base of the skull and the upper part of the chest attempt to advance under the sacro-iliac arch, which is impracticable." It is for this reason that it has been proposed lately to bring about anterior rotation by manual interference and the subsequent application of the forceps, which is, indeed, a very good plan if it were not possible to substitute a better one. In the R. M. P. position, the face being in the right canal, all that is necessary to do is to produce flexion, keeping the long diameter of the face and head always in the same canal. In fact, it is a repetition of the same steps as in the L. M. A. position after rotation has been effected. In the same way, the right hand is passed into the right sacro-cotyloid space, when, with the aid of the left hand, the head is flexed and pushed down into the pelvic cavity, and into the R. O. A. position. It is well not to forget that one of the principal points essential to the success of the manœuvre, before an attempt has been made to bring about flexion, is to see that the chin is forced well above the brim. In the L. M. P. position, as the face is in the left canal, the left hand is used instead of the right, and the remaining steps are exactly the same as those just described.

Like almost every other obstetrical operation where it is necessary to make internal manipulations, it is best to bring the patient to the edge of the bed as in the forceps position. In the majority of cases it will be found impossible to do anything without administering an anesthetic, although in three of the five anterior mento-presentations under my care it was not employed, and the whole manœuvre was performed in considerable less time than it took to explain the trouble and get the consent of the patient.

358 South Division Street.

Ergot in labor is advised by Schatz (*Deutsche Med. Zeitung*) in the form only of fresh fluid extract, whenever the pains are feeble. It produces normal pains which are not increased in intensity, but in number, if used in ten or twelve drop doses—more frequently than is now the custom. [We think ergot in any form is not needed in labor.—Ed.]

THE DIAGNOSIS AND TREATMENT OF FUNCTIONAL DISORDERS OF THE STOMACH.[1]

By FREDERICK P. HENRY, M. D.,

Physician to the Philadelphia and to the Jefferson Medical College Hospitals.

THE distinction between functional and organic affections is by no means sharp. They encroach on each other in such a manner that the imaginary line which separates them is remarkable for its sinuosities, and here and there is so faint as scarcely to be traced. In both these respects it resembles the lines of demarcation, the so-called sutures, which both separate and unite certain cranial bones. These statements, while true in general, are of particular application to the diseases of the stomach, of which the disorders of function are generally, sooner or later, associated with some organic defect. Thus, disorders of secretion are frequently accompanied with some impairment of motor power, or even with some alteration in the secretory tissue.

Bearing in mind the difficulties inherent in the subject of functional disorders of the stomach, I will begin by stating that they are all included under the heads of disordered secretion, disordered motion, and impaired innervation. It is self-evident that these three classes of affections are not only closely associated, but interdependent. Like the primary three colors, they give rise, by their blending, to various affections in reality composite or secondary, but yet of primary importance.

My remarks upon these three modes of disordered function must be very brief and imperfect, for an elaborate discussion of either one of them would occupy more than the time allotted me.

To make myself thoroughly understood, I am obliged to make some preliminary remarks on the chemistry of normal digestion. It is well known that pepsin will not manifest its digestive power except in the presence of an acid, concerning the nature of which there has been great difference of opinion. It has been variously regarded by men of the highest attainments in chemistry and physiology, as phosphoric, sarco-lactic, lactic and hydrochloric; but, little by little, the first two were positively excluded from the discussion, which became limited to lactic and hydrochloric acids. For many years physiologists were at variance concerning these two acids, one set regarding lactic as undoubtedly the acid of the gastric juice, while another was equally positive that this acid could be no other than hydrochloric. For example, I myself was taught, by so great a physiologist as the late

1. Read October 9, 1889, in the Philadelphia County Medical Society.

Professor John C. Dalton, that the acid of this gastric juice was lactic. The cause of these discrepancies is now plainly manifest, for during stomachal digestion the reaction of the gastric contents is at one stage due to lactic, at another to hydrochloric acid. In fact, normal digestion, considered with reference to the presence of these acids, may be divided into three stages. During the first, which lasts about half an hour, lactic acid is present alone; later, lactic and hydrochloric acids are present simultaneously; and, finally, there comes a stage when the only acid present is hydrochloric. The last stage may begin half an hour after eating, or, at the latest, an hour thereafter—*i. e.*, in health, for in disease the duration of these three stages may be variously modified. The most important period of digestion is undoubtedly the last, for it is well established that pepsin acidified with hydrochloric acid digests more actively than when acidified with lactic. In fact, lactic acid is an adventitious product of the fermentation of carbohydrates, and is always found in the first stages of the digestion of a mixed diet—meat, bread, potatoes, etc.—but if egg-albumin alone be administered to a fasting animal, and the contents of the stomach examined shortly afterward, hydrochloric will be the only acid detected.

The examination of the contents of the fasting stomach, which would long ago have settled this important physiological question, has only recently been undertaken. In the first place, it disproved the prevalent medical belief that the fasting stomach is empty. Rosin[1] introduced a soft rubber tube into the stomachs of a number of individuals free from gastric disease, the time chosen for the experiments being the early morning hours before breakfast. In only two out of forty-four such experiments did he fail to obtain a sample of gastric juice, the amount of which in the forty-two positive cases varied between three and ten cubic centimetres. In thirty-one of these forty-two cases the fluid thus obtained contained free hydrochloric acid. The question whether the fasting stomach contains pepsin received a positive answer in all the cases, six in number, in which the secretion was submitted to the digestive test. The important question whether lactic acid is present in the juice of the fasting stomach received a negative answer. In nearly all the cases the secretion gave the well-known biuret reaction, indicating the presence of peptone; but as this reaction is also given by the saliva, as well as by the nasal and pharyngeal mucus, it is reasonable to suppose that the peptone was swallowed with these secretions.

Now let us pause and consider what light these physiological facts throw on the disorders of gastric function.

1. Dr. Heinrich Rosin: *Deutsche Med. Wochenschrift*, November 22, 1883.

In the first place, it is readily understood how the first, or lactic acid, stage of digestion may encroach upon the second and third stages of that process, but the question with which we are now concerned is whether this excessive lactic acidity gives rise to symptoms. There can, I think, be no doubt that such a condition is the chief cause of *pyrosis*. I do not go as far as Bourget,[1] who considers it the sole cause of that annoying symptom. He was led to this conclusion by finding that he could not produce pyrosis in his own person by swallowing two glasses of water containing five per cent. of HCl, but that it was experienced a few minutes after taking the same amount of water containing one per cent. of lactic acid with a trace of butyric acid. Pyrosis is, undoubtedly, a symptom of excessive lactic acid fermentation, and the earlier it appears after the ingestion of food the more certainly is it due to this cause. It is also a symptom of undue acidity of the gastric juice, or hyperacidity, as it is now called, it being always understood where this term is used that the acid in excess is HCl. The term *pyrosis hydrochlorica* has been applied to this condition. Finally, pyrosis is not necessarily due to an excess either of HCl or lactic acid, but may even make its appearance when the gastric juice is of subnormal acidity. It may be, in short, one of the symptoms of nervous dyspepsia, in which affection the gastric nerves are so hypersensitive as to suffer during a digestion which is, in other respects, normal.

By hyperacidity is meant, as the term implies, that the gastric juice, which may be of normal or increased amount, contains an excessive amount of HCl. This condition is not to be confounded with hypersecretion, which means that the gastric juice is secreted in excessive amount during the intervals of digestion. As I have stated elsewhere, the former consists in a too liberal response to a physiological summons, while the latter is gratuitous. Hyperacidity occurs most frequently in connection with gastric ulcer, and, therefore, scarcely comes within the range of our subject. Hypersecretion, on the other hand, is a mere exaggeration of the normal processes, for—as demonstrated by the researches of Rosin, to which I have already alluded—the fasting stomach contains an appreciable amount of gastric juice. The limits within which the secretion of gastric juice, by a fasting stomach, may be considered physiological, are, as yet, unknown. It is certain, however, that the functional gastric disorder known as hypersecretion constitutes a well-marked pathological condition. Its principal symptoms are increased thirst, acid eructations, nocturnal attacks of epigastric pain, and dilatation of the stomach. The diges-

1. *Revue Méd. de la Suisse Romande*, November 12, 1888.

tion of carbo-hydrates is greatly impaired, while that of the albuminous substances proceeds with abnormal vigor. Positive proof of this condition is afforded by the sound employed in the following manner : The stomach is thoroughly washed out in the evening, and the patient directed to fast until the following morning, when the sound is again introduced. If hypersecretion exists, a quantity of fluid, varying from eight ounces to a pint, may be withdrawn. This fluid is colorless or slightly greenish, of viscid consistence, strongly acid, the acid being hydrochloric, and digests albumin rapidly. In a word, it is gastric juice.

Hypersecretion is probably always caused by disordered gastric innervation. It occurs in two forms, the one continuous, the other paroxysmal. The latter often coincides with the *crises gastriques* of tubes ; and in such cases the neurotic character of the affection is plainly evident.

A knowledge of the absorbent power of the stomach is of diagnostic value, and may be obtained by the following test, first employed by Penzoldt and Faber[1] in 1882. Three grains of potassium iodide are administered in a gelatine capsule, and the saliva, which has been previously shown to be free from iodine, is tested every minute for this substance. In dealing with a healthy and empty stomach, the first iodine reaction will be obtained in from six and one-half minutes to eleven minutes. If the drug be administered immediately after a meal, the iodine reaction will not appear until from twenty to thirty, and may even be delayed until forty-five, minutes have elapsed. By this means it has been shown that in various pathological conditions, such as cancer, ulcer, and chronic catarrh, absorption from the gastric mucosa is retarded. It can be readily understood that, in certain cases, a diminished absorption from this mucous membrane may be highly conservative. Litten[2] has demonstrated, by the test just described, a dimished power of absorption in cases of atrophy of the mucous membrane of the stomach. Now, in many such cases, especially in the forms associated with pyloric stenosis and consecutive dilatation, the stomach may contain in its fermenting and putrifying contents an amount of ptomaines sufficient, if absorbed, to cause death by acute poisoning.

The usual precautions are to be taken in the administration of gelatine capsules, *i. e.*, they should not be given to a patient who is taking either alcohol or tannic acid, as both these substances render the gelatine insoluble.

1. *Berlin. Klin. Wochenschrift, No.* 21, 1882.
2. *Deutsche Med. Wochenschrift,* Nov. 22, 1888.

It is often of diagnostic value to obtain some idea of the motor power of the stomach, which some authorities are inclined to regard as the most important function of that viscus. Until quite recently, the only method of acquiring such information was that introduced by Leube, and consisted in the introduction of the stomach-tube seven hours after a meal, *i. e.*, at a time when the food should have passed into the intestine. The presence of food at such a time would indicate an impairment of motor power, and the degree of the latter would be in direct ratio to the quantity of the former. This method is crude, and inapplicable to most clinical purposes.

The peculiar properties of salol led Ewald and Sievers to employ it for testing the motor function of the stomach. This drug remains insoluble and undecomposed in the stomach, but splits up into carbolic and salicylic acids when it comes in contact with the alkaline secretions of the intestine. The salicylic acid is excreted with the urine, in which it may be detected by suitable reagents, and the time between the administration of the drug and the detection of the salicylic acid in the urine is indicative of the motor power of the stomach. These properties of salol seem to render it peculiarly suitable for testing this function. With this object in view, fifteen grains of the drug are administered in capsules or pills, and the urine examined at frequent intervals. The first appearance of salicylic acid in that fluid shows that the salol has passed into the duodenum, and has been absorbed and excreted. I mention this ingenious test for the purpose of showing the direction of present research in the diagnosis of disorders of the stomach, although I believe it can never come into general use. In the first place, the chemical test for salicylic acid in the urine is, as Stintzing[1] points out, an elaborate one, and, in the next, it is impossible for most persons to urinate at such short intervals as it demands. Again, Bourget[2] has shown by experiments on his own person that the diet is of great importance in determining the time in which salicylic acid appears in the urine. After taking nothing but meat, and a glass of water containing two per cent. of HCl, the salol test was applied and salicylic acid detected in the urine in from one hour and a quarter to one hour and a half after the repast; whereas when fruit was eaten two hours before a meal consisting of meat and vegetables, the salicylic reaction was obtained in from fifteen minutes to half an hour. These discrepancies are explained in the following manner: The fluid contained in the first portion of the small intestine is not always alkaline. On the contrary, it is often acid, its reaction depending to a large extent on the quantity of acid poured into the duodenum by the

1. *Münchener Med. Wochenschrift*, Feb. 26, 1889.
2. Loc. cit.

stomach. If to the gastric juice, already acid, there be added an additional quantity of HCl, as in the first experiment of Bourget, the chyme will have to traverse an unusually long section of intestine before it is neutralized, and the salol contained in it will be larger than usual in finding the alkaline medium in which alone it can be decomposed. On the other hand, by rendering the intestinal juice unusually alkaline, for example by eating fruit, of which the organic acids are decomposed into alkaline products, the chyme will be rapidly neutralized in the intestine, and the salol speedily decomposed.

Huber[1] proposes the following modification of the salol test: The patient takes a dose of salol, and his urine is examined on the following day at stated periods. The longer the time during which the salicylic acid is detected in the urine, the weaker is the motor power of the stomach. In certain cases of undoubted motor insufficiency, the salicylic acid reaction could be obtained on the second day after the drug had been swallowed.

Klemperer[2] recommends the following test of the motor power of the stomach on the score of greater accuracy. He injects a certain amount (100 grammes) of olive oil into the stomach, and at the end of two hours withdraws what is left. Oil, being a substance that is not absorbed by the stomach, the difference between the amount injected and that withdrawn indicates the motor power. A number of experiments proved that a healthy stomach will discharge between seventy and eighty grammes of oil out of 100 in the course of two hours. In thirteen cases of gastric catarrh, the test showed a decided diminution of motor power, the amount of oil expelled in two hours varying between twenty-three and forty-four grammes, just about half the quantity discharged in the same time in health. For obvious reasons this test is difficult of application, and Klemperer himself admits that it is not applicable in private practice.

I have now briefly alluded to the principal disorders of secretion, and have mentioned the most approved modern methods for detecting those of motor function. The third division of my subject is disorders of intervention, which can only be dealt with in the most cursory manner.

Nervous dyspepsia has acquired a permanent position in nosology since its introduction by Leube,[3] in 1879, although his conception of the affection has undergone some decided modifications. Leube supposed the chemistry of digestion to be always normal in nervous

1. *Münchener Med. Wochenschrift*, 1888, No. 19.
2. *Deutsche Med. Wochenschrift*, 1888, No. 47.
3. *Deutsches Archiv. für klin. Med.*, Bd. xxiii., 1879.

dyspepsia, whereas numerous exceptions to this rule are now recognized. He also supposed the affection to be an independent or idiopathic one, whereas it is now regarded as a neurosis which seldom finds its sole expression in the gastric and intestinal nerves, but is, in most instances, a part of a general state of neurasthenia. For the latter reason, the terms neurasthenia gastrica and neurasthenia vagosympathica have been applied to it, but nervous dyspepsia is, and doubtless will continue to be, the one most commonly employed.

The chief symptoms of nervous dyspepsia are eructations, which, unlike those of gastric catarrh, are mostly testeless and odorless, a sense of pressure and fulness in the epigastrim, and pain which is often independent of the quality of the food. A mouthful of water, for instance, will often give rise to severe pain, as is the case with a patient now under my care at the Jefferson College Hospital. As a rule, however, pain is most readily induced by fatty and acid articles of food. Pyrosis is, as already stated, a symptom of this affection, and is sometimes peculiar in being associated with a subacid condition of the secretions. A capricious appetite is a characteristic feature of many of these cases. There may be complete anorexia alternating with periods of hyperorexia or bulimia. This morbid appetite may suddenly manifest itself at the most unseasonable hours, as in a case mentioned by Decker,[1] in his excellent article on Nervous Dyspepsia. The individual in question was constantly roused from sleep by a sense of hunger, which he was obliged to appease with a hearty meal, composed of soup, eggs, cold beef, etc.

Insomnia is a frequent symptom of this disorder, whereas, on the contrary, in quite as many cases the patient is habitually drowsy. With reference to the stools, there is nothing characteristic, except that they are not regular, a state of constipation often alternating with one of diarrhea. The diagnosis is made by the exclusion of cancer, ulcer, and catarrh. The chief difficulty consists in distinguishing this condition of neurasthenia from one of chronic catarrh; but there are certain points which, if borne in mind, will prove of great value in this differential diagnosis. In catarrh, the feelings of pressure and fulness are experienced directly after eating, and reach their maximum when digestion is at its height; whereas in nervous dyspepsia these symptoms are very variable with reference to the time of their appearance, and are often relieved by eating. They may also disappear for weeks or even months. The appetite in nervous dyspepsia is, as already stated, capricious, whereas in catarrh it is permanently absent. Valuable diagnostic aid may sometimes be derived from the

1. *Münchener Med. Wochenschrift*, May 28, 1889.

effects of treatment. For example, it is said by Decker[1] that the Carlsbad cure, which is so beneficial in cases of gastric catarrh, is invariably injurious in nervous dyspepsia.

I have now reached the last and most important part of my subject, viz., the treatment of functional disorders of the stomach, and here I must repeat what I stated with reference to their diagnosis, that the time suffices for nothing more than a few therapeutic suggestions. I will first consider the treatment of pyrosis, a symptom to which I called your attention in an early part of this paper, and I do this not only because it comes first in order, but also because its consideration will furnish some useful therapeutic hints. There are, as I stated, at least two kinds of pyrosis, one due to an excess of lactic acid and the other to an excess of hydrochloric; and the time-honored treatment of this symptom, without reference to its cause, has been the administration of sodium bicarbonate. The following experiment of Bourget shows that this drug, in the commonest form of pyrosis—that caused by an excess of lactic acid—is, at most, an evanescent palliative. To a patient with chronic gastric catarrh and dilated stomach was given a certain amount of soup, some of which was withdrawn two hours later, and found to contain 1.68 per cent. of lactic acid and no HCl. It was then exactly neutralized with sodium bicarbonate and placed in an incubator. At the end of half an hour it contained four per cent. of lactic acid. It was again neutralized and about eight grains of sodium bicarbonate added in excess. At the end of an hour free lactic acid was found. On the other hand, HCl given during a meal was found to prevent the formation of lactic acid. This corresponds with the physiological fact that the lactic acid formed during the first half hour of digestion is speedily suppressed by HCl. Bicarbonate of sodium undoubtedly neutralizes any lactic acid that may be present in the stomach, but instead of preventing its further formation, seems to increase it by creating an alkaline medium favorable to the growth of the organism of the lactic acid fermentation. Lactic acid pyrosis, therefore, is to be treated by the administration of HCl during, or immediately after, a meal.

Pyrosis hydrochlorica may be due to hyperacidity or hypersecretion. In the first instance, it is to be treated by the administration of an alkali several hours, from four to six, after a meal. In hyperacidity the gastric juice is abnormally active, its physiological work is soon performed, and then it expends its superfluous energies upon the unfortunate patient. Having waited until its work is done, it is rendered powerless for mischief by the administration of an alkali, just as in

1. Loc. cit.

peptonizing milk we boil the mixture or place it on ice to prevent the process from going too far.

The most successful treatment of hypersecretion consists in the methodical washing out of the stomach, preferably just before the principal meal, and the administration of alkalies. The latter should be given in large doses, for, as is well known, the administration of a small dose of an alkali will be followed by an increased secretion of gastric juice. Thirst is often excessive in these cases, but water should not be allowed except in small quantities, as it tends to increase the dilatation which is usually present. When the sense of thirst becomes unbearable, it is better to obtund it, as Riegel suggests, by the administration of small doses of opium than to permit the ingestion of large quantities of water. The diet should, at first, consist exclusively of albuminous substances, as carbohydrates are only partially digested, and by their fermentation aggravate the disease. Dr. Roberts, of Manchester, observing a profuse flow of saliva in cases of acid dyspepsia, and believing it to be a provision of nature for relieving the surplus acidity of the stomach, recommends the use of substances that will provoke its secretion, such as gum lozenges, containing a small amount of ginger, cayenne pepper, or pyrethrum. He has thus experienced relief in his own person and given it to others.

In cases of motor insufficiency, in addition to general hygienic measures, the vegetable bitters, especially strychnia, and alcoholic stimulants may be used with advantage. Klemperer[1] found that both substances hastened the exit of food from the stomach.

The treatment of nervous dyspepsia must vary with the cause producing it. One case will be cured by restoring the uterus to its normal position, another by curing a chronic constipation or expelling a tapeworm; still another by allaying an irritation of the spine. A restricted diet, or one of milk only, which is always beneficial in catarrh, is of little or no benefit in cases of nervous dyspepsia. General supporting measures, massage, electricity, the bromide salts, and, if anemia exists, arsenic and a mild non-constipating preparation of iron, such as the potassio-tartrate, are the chief indications. I believe also, from a limited experience of the measure, that lavage may sometimes be of decided service in soothing a hyperesthetic mucosa.

Smoking early in the morning is to be strongly reprehended. Moderate smoking after the mid-day meal, or even late at night, in a healthy person is not injurious. Dr. Loomis and other observers indorse this view.

1. Loc cit.

A DERMOID CYST OF THE LEFT OVARY. OPERATION.—RECOVERY.

By WILLIAM WARREN POTTER, M. D., Buffalo, N. Y.

Pathological Demonstration. By WILLIAM C. KRAUSS, M.D., of Niagara University, Buffalo, N. Y.

DERMOID CYSTS, though not infrequent, are not sufficiently common, nor is their pathogenesis so well established as to render reports of isolated cases uninteresting or without value. The clinical antesection history of the following case is kindly furnished by the attending physician, Dr. J. D. Macpherson, of Akron, N. Y.:

Mrs. R——, aged 53, mother of two children, has had several miscarriages, and menstruates regularly. I saw this patient first, Oct. 16, 1888, when I found her suffering from severe pain in the cecal region, associated with marked tenderness at that point, together with tympanites and localized swelling. I made a diagnosis of obstruction of bowels, Dr. Lapp, of Clarence, in attendance at the time as consulting physician, coinciding in this opinion. The patient was kept under opium for twelve days, when her bowels moved naturally and she made a rapid and apparently full recovery. She summoned me again, April 1, 1889, when I found her suffering from severe pain in the lower part of her abdomen, temperature 104°. Under treatment for pelvic peritonitis these symptoms subsided and I discharged her from care the second time. April 14th, a week later, I was again summoned with the information that her abdomen was swelling. Upon examination I discovered a tumor rising from the pelvis which I surmised at once to be a distended bladder, as the patient informed me she had passed but a small amount of urine for some time. A catheter was introduced, but no urine was obtained. I saw the case the following day with Dr. Lapp, and upon the supposition that the tumor contained pus, a hypodermic needle was introduced, and enough fluid drawn to satisfy ourselves of the nature of its contents. We aspirated a week later, (as patient was menstruating profusely at that time), and drew off two quarts of healthy pus. The sac filled up again in about two months, and aspiration was again resorted to, with a similar result, though this time aspiration was followed by a chill and subsequent peritonitis. This time the sac filled even more rapidly than before. From the position of tumor, its inclining more to the left side, we now concluded it to be a cyst of the broad ligament, and recommended an operation to the patient and friends. Consent having been obtained the date of operation was set for August 24, 1889, and Dr. W. W. Potter, of Buffalo, N. Y., was called to make it.

With only this meager history to guide me, and as the patient was in a markedly septic condition, I concluded that I had a suppurative cyst of the broad ligament to deal with, though a positive diagnosis was not ventured. The only thing to do was to open the abdomen, with a view to a removal of whatever might be found.

Abdominal section, August 24, 1889, at 8.30 A. M. Potter, operator. Present, Drs. J. D. Macpherson, of Akron, and Dr. Henry Lapp, of Clarence, the attending and consulting physicians; also Dr. B. H. Daggett and Dr. Edward Clark, of Buffalo; Dr. A. N. Moore, of Rapids Bridge, and Dr. Martin, of Clarence.

The short median incision quickly disclosed the cyst, that was found strongly adherent in all directions. It was tapped with an ovarian trocar, and something over four quarts of pus, flocculent towards the last, were drawn. Some time was consumed in shelling out the cyst, from its stoutly adherent attachments to all the adjacent viscera, and the operation was necessarily a very dirty one. The patient seemed well-nigh collapsed by the time the cyst was released, but a free irrigation with quite hot water rallied her promptly. The abdomen was closed, with a drainage-tube left in the lower angle of the wound; and the usual dressings applied. In the evening, after the operation, her temperature rose to 100½° F., with the pulse at 130. Next morning, the temperature fell to 99° F., with the pulse below 90. The temperature lurked in the vicinity of normal, being slightly subnormal at times,

DERMOID CYST. VARIETY—PROLIFERATIVE, DENTIGEROUS.[1]

during the following week. The drainage-tube was removed on the fourth day, and the patient made a rapid and uninterrupted recovery.

To the excellent after treatment by the attending and consulting physicians, belongs much of the credit of the cure.

Upon enlarging the opening in the cyst five teeth were found, and the remains of what seemed to be a maxillary bone. The cut which appears above shows three of the teeth very clearly, the others being now in possession of one of the physicians in more immediate attendance. I leave to Dr. Krauss the histological description of the tumor.

WILLIAM WARREN POTTER.

1. The walls have been opened sufficiently, allowing the edges to be everted so as to show the interior of the cyst. The presence of teeth, three in number, can be easily recognized. Photo by W. C. K.

HISTOLOGICAL AND PATHOLOGICAL DEMONSTRATION, BY DR. KRAUSS.

Dermoid cysts have been classified under the teratomas by Virchow, in view of the number of different tissues which enter into their structure. They also come under the head of congenital or developmental cysts, taking their origin, in all probability, at some early intrauterine period.

The exact nature of the genesis of these cysts is still shrouded in mystery. The most plausible theory yet offered, and the one prone to be accepted, is that they result from a misplacement, or involution of the epil and mesoblast of the embryo, at an early period of development. The misplaced epithelial elements, contained in the stroma of the ovary or other organ, in developing produce a neoplasm, whose inner walls assume the character of the epidermis, with its structure, appendages, and, in part, its functions.

The theory, once held in good repute, that they result from some ectopic gestation, has long been discarded; the character of their contents and mode of development preclude all possibility of their being the remains of an undeveloped fetus.

The favorite seat of these cysts appears to be in the ovaries, as two-thirds of all known cases have been found in these organs. Next to the ovaries, they are most frequently encountered in the testicles, and have even been found in the mediastinum, lungs, and cranial cavity.

Structure.—The walls of dermoid cysts are composed of an external or muscular, and an internal or epidermal layer. All interest, however, is centered in the latter, which consists of a corium and an epidermis of flattened epithelial cells, simulating closely the structure of the skin. This layer may vary considerably in structure and appearance. Sometimes it is of a smooth epidermoidal character, or it may be nodular, with hypertrophy of the corium and epithelial cells, resembling warty excrescences. Cartilaginous tissue, irregular-shaped bony structures, as bony plates, misformed maxillary bones with alveoli set with teeth and structures corresponding to the nails, have all been met with complicating this inner layer. It may also, at times, possess the appendages and structures of the normal skin, developed to a high degree of perfection. Sebaceous glands, with secretory power, sweat glands and hair follicles, capable of performing their functions, have been found in the walls of these cysts. Nerve elements, brain tissue and unstriated muscular fibers have occasionally been observed. Cysts, with this variety of contents, have been called proliferative.

Lebert found, in half the cases of dermoid cysts, the presence of teeth, while Pauly found them in only one-sixth of the cases. They may be set in alveolar cavities, or may be attached to the walls by connective tissue bands. The number of teeth found in these cysts varies from 1-300. (Cases reported by Plocquet and Autenrieth 1807, and by Schnabel 1844). The variety may include incisors, canines, bicuspids, molars, or wisdom, perfectly developed with fang, neck, crown, enamel, tartar and cement. In the majority of cases, however, they are imperfectly developed, being irregular in shape, and incapable of being classified. Those cases of dermoid cysts in which teeth complicate the structure are designated as dentigerous.

A close histological examination of the heterogeneous elements found in the walls of dermoid cysts, discovers nothing to distinguish them from the same tissues which occur normally in the human structure.

The size of these cysts may range from that of a walnut to a man's head, depending, of course, upon their contents, which is the result of continuous activity of the glandular structures. Large masses of fatty matter, epidermal scales, cholesterine crystals, leucocytes, bunches of hair, etc., have been found enclosed within their walls.

This short sketch of the development and structure of dermoid cysts may aid somewhat in a better comprehension of the description which is to follow. It may also serve to remind the reader of the great variety of anatomical elements present in such a neoplasm, and to show how far the development of this cyst has advanced.

DESCRIPTION OF DR. POTTER'S SPECIMEN.

The cyst is slightly globular in form, with a transverse diameter of four and a half inches, and a longitudinal diameter of five and a half inches. (In the fresh state, these figures were undoubtedly much increased, the action of alcohol tending to contract the tissues.) The external surface presents a ragged, uneven appearance, with long irregular shreds of connective tissue, having once served as attachments to the neighboring organs. The cyst does not appear to have had a pedicle, as no remnant of one is recognizable. A small fragment of the Fallopian tube, much distended, is found attached to the external surface.

The external or muscular coat is variable in thickness. In some places nothing but a broad aponeurotic structure is present, which soon expands into dense, muscular layers, from one-sixteenth to one-quarter inch in thickness. These muscular fibers have a more or less circular arrangement, and are of the plain non-striated variety. Masses of adipose tissue, blood-vessels of different sizes, and several nodules of cartilage, the size and form of a small bean, were found imbedded in this muscular coat.

The internal, or epidermal, layer claims most of our attention. It is smooth, soft, velvety at places; then it takes on a rugged nodular appearance. In some places, small cauliflower-like excrescences, of considerable area, are present. The thickness of this layer is also variable, depending upon the condition of the corium and epithelial cells, whether in state of hypertrophy or not. Scrapings from the surface of this layer, examined microscopically, show flattened epithelial cells, fat globules, leucocytes, and detritus.

Near the original opening of the cyst are grouped a number of well-formed teeth, some set in alveolar cavities, others joined to the wall of the cyst by connective tissue fibers. The number of teeth originally present was five; subsequent to the operation, two became detached, and were removed. In the walls of the cyst, a flattened triangular bony plate, with sharp edges, is found, projecting through the soft structure. Leading down to this bony plate are two alveolar cavities, whose corresponding teeth, as has just been stated, were removed after the operation. A probe inserted into these cavities shows that the bone contains rather shallow but well-marked depressions, which served for their lodgment. The free edges at the opening of these cavities have a ragged fringed appearance, indicating the ruptured attachments between the soft tissues and the teeth.

The remaining teeth now to be described are well shown in the illustration.

Tooth No. 1 is a second bicuspid, three-quarters of an inch long, with crown and fang complete. The masticating surface of the crown is about three-sixteenths of an inch in diameter, and possesses two cusps, of unequal length. The fang tapers to a point, and is half an inch in length. This tooth is of normal color, and is supplied with enamel, tartar, and cement, making it a perfectly developed tooth in every particular. It is firmly attached to the walls of the cyst by broad bands of connective tissue.

Tooth No. 2 is a wisdom tooth three-quarters of an inch long. Its crown possesses four cusps separated by a crucial depression. The fang is five-eighths of an inch long, transversely flattened, wedge shaped with no tendency to bifurcate. It also is attached to the wall of the cyst by connective tissue fibers.

Tooth No. 3 is a distinct cuspid, or canine. Its crown is conical, convex externally, concave internally, tapering to a blunted point. The neck is surrounded by a tissue resembling the normal gum. Its fang is firmly set into an irregular shaped mass, calcareous in color and appearance, but lacking the hardness and brittleness of calcareous structure. This mass, which is about five-eighths of an inch in diam-

eter, is attached to the wall of the cyst by a short, thick, fleshy pedicle. Small pieces of this calcareous-like substance are scattered about the epidermal layer.

Hair follicles, sweat glands, nails, etc., were not found in connection with the inner layer.

From the description of its contents, this cyst is to be classified as dermoid, proliferative, dentigerous.

Interesting points about this cyst are the perfectly developed teeth which permit of classification, its large size, and the length of time it remained dormant in the system. WILLIAM C. KRAUSS.

Clinical Reports.

ABDOMINAL DROPSY IN A YOUNG SUBJECT.

By JAMES WRIGHT PUTNAM, M. D., Buffalo, N. Y.

SOME time ago, I was invited by Dr. Burwell, of this city, to see the following case :

A boy, eleven months old, with acute general dropsy. The scalp, hands, arms, legs, and ankles all pitted on pressure. The abdomen was greatly distended with fluid. There was no history of previous ill-health. The bowels moved naturally every day. There was no suppression of urine. There had been no cutaneous trouble.

Small powders of jalap and cream of tartar were prescribed. These operated freely, and reduced the edema of the extremities to a marked extent. The ascites, however, was undiminished, and we accordingly decided to tap.

We drew off one pint of fluid, which was straw-colored, and did not differ from the usual ascitic fluid. The child made a complete recovery.

I report this case, as I believe it unusual to find dropsy in children under a year old.

A HYPNOTIC SOCIETY.—A number of London physicians have organized a Hypnotic Society, for the purpose of studying hypnotic phenomena, and securing a law prohibiting public séances of hypnotism, mesmerism, and the like.—*Phila. Med. and Surg. Reporter.*

Society Proceedings.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Reported by J. M. BALDY, M. D., Secretary.

THURSDAY, OCTOBER 3, 1889.

Dr. THEOPHILUS PARVIN in the chair.

REPORT OF A CASE OF TUBAL PREGNANCY, WITH SPECIMEN — PROBABLE DIAGNOSIS, AND REMOVAL PRIOR TO RUPTURE.

By THEOPHILUS PARVIN, M. D.

Mrs. Mary E. W——— was brought to the hospital of Jefferson Medical College, September 19th, suffering from a probable ectopic gestation. She is 26 years old, has been married seven years, and has had three living children, all of whom she has nursed, and during each lactation menstruation has regularly occurred; her youngest child is thirteen months old, and she is now nursing it. About the 29th of June, the usual flow began, but has continued ever since, with brief intermissions, under the use of medicines given by her physician, Dr. Horwitz. In the latter part of August, and in September, she has suffered somewhat from nausea; and this, with some other things, would have led her to believe she was pregnant, had not the hemorrhage from the uterus been so constant. About the 1st of September, she began to suffer with occasional violent attacks of pain low down in the left side, followed by much soreness; these attacks were especially liable to occur when she lifted her child.

Because of the temporary absence of Dr. Horwitz from the city, she went some three or four times to the dispensary of the Pennsylvania Hospital, where she was examined by Drs. Baldy and Bradford, who found a tumor on the left side of the uterus, tender and cystic, with a history of almost continuous bleeding for some weeks, there being, however, no signs of any shreds; pain in the lower part of the abdomen; only very meagre symptoms of pregnancy. A probable ectopic gestation was diagnosticated, and an operation urged.

The day that she came to Jefferson Hospital, she had, with the hemorrhage, a discharge of small, membranous fragments; whether decidual or not, of course, could only be certainly known by microscopic examination. A day or two before, some similar fragments were discharged, according to her statement.

Upon examination, I found a tumor adjacent to the uterus, upon the left side, the uterus somewhat enlarged, and very great sensitiveness to pressure, both in the vagina and in the lower part of the abdomen, especially at the left side.

The history, the examination, and the previous examinations of Dr. Baldy, with his conclusion, gave me little doubt that the case was one of tubal pregnancy.

Abdominal section was done on the 20th of September, Dr. Baldy kindly being present, and Dr. W. E. Ashton assisting in the operation. The gestation cyst included in the tube was removed, and the specimen is now shown you.

The patient's convalescence has, thus far, been uninterrupted, almost two weeks having elapsed since the operation.

REPORT OF A CASE OF TUBAL PREGNANCY, WITH SPECIMEN.—NON-DIAGNOSIS, BUT REMOVAL PRIOR TO RUPTURE.—RECOVERY.

By J. M. BALDY, M. D.

Mrs. G. R— (colored) walked into the out-patient clinic of the Howard Hospital, July 5, 1889, suffering from pain in her abdomen, so similar to that which I have often seen go with a pyosalpinx, that I diagnosticated this disease before examining her. The examination revealed a large, apparently tortuous, tender mass, posterior, and slightly to the left side, giving a boggy sensation to the touch. The diagnosis was verified, a saline purge given, and an immediate operation advised.

One week later, a messenger summoned me to the home of the patient, where I found her lying on the bed, suffering from severe pain in the abdomen. She stated that the night before a fit of sneezing had given her a similar pain. She arose from the bed and walked to the table, a distance of about six feet. While standing there, she was seized with a severe, cramp-like pain, which doubled her up and lasted for a few moments. The idea took possession of me that she was possibly suffering from an ectopic gestation. I helped her on to the bed, and made a most careful examination, which revealed the following: She had been having children at regular intervals of about two years. She had a child just a year and a half before, since which time her menstruation had been pretty regular. With the exception of an occasional "pain in her belly," she had always been well. Before coming to me, she had been bleeding irregularly for about two weeks. The show was, and had been, clear blood, without any signs of shreds. Her husband had been away from home for about three weeks. The pain in the abdomen had been there since the bleeding began. There was not the slightest sign of pregnancy, either subjective or objective, nor did she think she was pregnant. A reëxamination of the pelvis showed only what had been before found, viz., a cystic mass, which did not pulsate, posterior and to the left—apparently a distended tube. The uterus was in position of normal anteflexion, and there was a perfectly normal cervix for a multipara. There was an elevation of temperature, and the woman had had chills and creeps. I asked Dr. Hamill to see the patient for me, and he verified my examination throughout. Together we decided that it was a case of pyosalpinx, stating, at the same time, that we had thought of ectopic gestation as a possibility, but were wholly unable to find sufficient data on which to verify our suspicion.

On July 13th, I opened the abdomen, with the assistance of Drs. Hamill and Naylor, in the presence of three or four gentlemen, and removed a left tubal pregnancy, which I here present to you. As I tore away the adhesions which bound the mass to the pelvic walls, the cyst was ruptured, and a teaspoonful of black clots was discharged from the sac itself. It was evidently a pregnancy of the fimbriated end of the tube, which had become adherent to the pelvic wall, the pelvic wall thus forming one side of the sac. The case well illustrates the difficulty, nay impossibility, of at times diagnosticating ectopic gestation. In three weeks the patient was sent home, and is to-day in her usual good health.

I would emphasize the following points, viz.:

The case is one of primary or unruptured tubal pregnancy. (There are now four such cases on record from this city alone, viz.: Dr. J. Price's, Dr. Goodell's, Dr. Parvin's, and my own.)

The patient is a colored woman, which is rather rare.

The patient did not have a long period of sterility, but was bearing children regularly.

There was at no time a sign of a decidual discharge.

There was at no time the slightest subjective or objective sign of pregnancy.

DISCUSSION.

Dr. E. W. CUSHING, of Boston.—The subject of extrauterine pregnancy is one of great interest to me, and I can say, from sad experience, that it is not easy to make a diagnosis. After some obscure symptoms of irregularity of menstruation, etc., a near relative was taken suddenly with a severe attack, which, after the event, I felt was due to a tubal pregnancy ruptured into the broad ligament; she finally recovered without operation. This turned my attention to the subject, and I looked up the specimens in the Harvard Medical School, which Dr. Parker photographed and I published. In another case, of which I saw the specimen, a gentleman operated for an ill defined tumor. The cyst was opened after the operation, and a fetus, three-fourths of an inch in length, found. There had not been a suspicion of pregnancy.

I believe that almost every one agrees in regard to the difficulties of diagnosis, and I believe that pretty much every one here agrees as to the necessity for surgical treatment; yet, as a subject for debate here, I would suggest, in opening this discussion, that there may be cases where a man may suspect extrauterine pregnancy, but yet be not sufficiently certain to operate, or not be able to get permission to do so, or he may be unable to do an abdominal operation himself, or secure the services of one that can. I would suggest that under such circumstances, the use of the faradic current is not only justifiable but prudent. This would be proper only in the earliest stages, before the fetus has reached such development that it would leave behind a source of irritation and suppuration. I think that the condemnation of the electric treatment in the early stage has been too sweeping and severe. Certainly the horrible cases which are recorded from attempting to puncture the fetal sac, especially at a later date, are not likely to be repeated.

Dr. WILLIAM GOODELL.—In regard to the electrical treatment of extrauterine fetation, I must confess that I was theoretically inclined to believe in it. But when I had met with cases of extrauterine fetation, and I saw the mass that was present, and the adhesions and injuries which adjacent organs had sustained, I could no longer uphold it. In my opinion, electricity should be reserved for those cases in which the woman absolutely refuses any surgical operation, or

when the physician is not a laparatomist, and he cannot secure the services of one. The amount of adhesions is, however, so great, and the injury done the appendages so severe, that the woman cannot, in any case, conceive on that side. This was apparent in the case reported by me to the Society, in which I operated previous to the rupture. In this case, indeed, the appendages of the unimplicated side were so diseased as to need removal. The operation is, therefore, warranted, if, for no other reason, simply for the diseased tubes and ovaries. I have practically been converted to the belief that electricity, and particularly electrolysis, should not be used in these cases. The electrolytic action is a most dangerous one. Although advocated by Apostoli, the results have been most disastrous in the cases in which it has been tried.

Fifteen years ago, in a case which I now believe was one of extrauterine pregnancy, I punctured the tumor with an aspirating needle. In a few days septicemia set in, and the woman died.

The injection of morphia, as recommended by Winckel and by others, has met with better success. But while it destroys fetal life, it cannot cure the injuries sustained by the appendages, for which the best remedy is the knife.

I have had four cases of early extrauterine pregnancy within a few months, all of which were successful. One I supposed to be a simple case of disease of the appendages, and operated accordingly. It had burst, and without marked symptoms. In another case of ruptured sac, the specimen was perfectly analogous to that presented by Dr. Baldy, and he was present at the operation. The history of the third case I have already given to the Society, and I presented the specimen. I diagnosticated the ectopic pregnancy and operated before rupture. The fourth case was one of interstitial pregnancy, on which I operated the day before I went to Europe. The woman was brought to me by her physician, with the history of hemorrhages and great suffering, but with none of pregnancy. Her physician thought that the tumor was either a fibroid or a polypus. I found a fluid tumor bulging into the endometrium, and slightly dilating the os uteri. My diagnosis was a necrotic intramural fibroid tumor. Using Adam's subcutaneous saw, I cut into the mass, and removed a quantity of grumous blood and broken-down fragments. These latter were examined under the microscope and found to be placental tissue. The subject of extrauterine fetation is of great interest, not only before and after rupture, but also in relation to the cases that go on to term. I shall never forget the first case of extrauterine fetation that I saw. It was the classical case of the late Dr. Parry,—the one which led him to write his admirable essay on the subject.

A distinguished surgeon was called in. This was in the days when we made marked distinction between pelvic cellulitis and pelvic peritonitis. He diagnosticated the case as one of pelvic cellulitis. There was heat and great pain, with complete immobility of the womb. The patient did not improve, and I was called in, and diagnosticated the case as one of pelvic peritonitis, which, in one sense, it was, as the subsequent history will reveal. My treatment was not satisfactory, and I lost sight of the case. Several weeks afterward, while I was confined to my house for a few days by an illness, Dr. Parry came to see me. He sat down by my side, and after asking about my health, he referred to this case, and pointing his long forefinger at me, said, "You have made a great blunder." He then told me that he had been called in the day before to see the case, and that he considered it to be one of normal pregnancy, for he had heard the heart-sounds with the utmost ease; in fact, had never heard them so distinctly before. I said to him, "Dr. Parry, of course you are right in the theory of pregnancy; but depend upon it, there is something wrong, for I can hardly think that either Dr. ——— or myself could have made such a mistake without some good reason for it." The time for labor came, but it did not set in. Then the death of the child occurred. Dr. Parry was now again sent for, but this time he was unable to find the os uteri, so he sent for me. With great difficulty I found the cervix above the pubic bone. We then made the diagnosis of retroverted gravid uterus. At the next visit, it intuitively flashed across my mind that it was a case of extrauterine fetation, and then it became clear enough. To clinch the diagnosis, Dr. Parry introduced a hypodermic syringe needle and drew off some amniotic fluid. In a few days the head bulged down into the vagina, and we could distinguish even the sutures. We wished to incise the vagina and deliver the child with forceps; but the woman refused an operation, and died. At an autopsy Dr. Parry withdrew the sac and fetus, and exhibited them to this Society. Not long after this I saw a second case. The woman had passed full term, the child had died, and yet labor did not come on. Her physician, much puzzled, called me in. In this case the cervical canal was open, and, suspecting extrauterine pregnancy, I passed my finger into the uterine cavity and found it empty. The case was seen by one or two other physicians in consultation with us. We were anxious to operate, but the husband would not permit it, unless we could assure him positively that his wife would recover. While waiting, the woman suddenly died.

The third case I saw, a number of years ago, in a mulatto. The child was living at the time that I operated. There was no difficulty,

either in the diagnosis or in the operation. The child, being hardly viable, gasped a few times and died. I did not dare to remove the placenta, and, as the umbilical cord was very large, I made the mistake of leaving it in the lower angle of the wound as a drainage-tube. The woman died a few days later, and at the autopsy we found the liver and lungs riddled with pyemic abscesses.

I operated on another case, in which the fetus must have died at the age of six months. The woman was perishing from blood-poisoning. She was emaciated, had high temperature, and night-sweats. Pus was evidently present somewhere, and I diagnosticated the tumor as a suppurating ovarian cyst. What perplexed me was great resonance in front. At the operation, this was explained by the presence of the gases of decomposition. Excessively fetid pus escaped. I removed the fetus, the bones of which, with the scalp and umbilical cord, were the only parts intact. The placenta was not to be found. The woman died suddenly from supposed heart-clot, after a violent altercation with her husband.

Not long after, I was called to Mount Holly to see a case which had been correctly diagnosticated by the physician. I removed a petrified seven-months' child. The patient had albuminuria, but did well until the eleventh day, when uremic convulsions set in, and she died comatose. All these operations were performed before the days of antiseptic surgery, and I have not since seen a case of advanced ectopic gestation.

I believe that Tait is correct in explaining these advanced cases by the rupture of the tube, and the escape of the unbroken gestation sac into the fold of the broad ligament. The behavior subsequently is precisely like that of an intraligamentary ovarian cyst.

In regard to early diagnosis, I should say that the most common symptom is arrest of menstruation for one or two periods, followed by irregular uterine hemorrhages. It is true that pelvic colic is a common symptom, but not so common as the other. But I do not know that it is necessary to make an absolute diagnosis; given a woman with the exacting symptoms of a suspected extrauterine fetation, who has a displacing-tumor on one side of the womb, are we warranted in operating merely to remove the tumor, whatever its nature? Do we not constantly, on less provocation, remove pelvic tumors, whose character is determined only by the operation? Instead of an extrauterine fetation, we may find pyosalpinx, or an ovarian abscess; but were we not in duty bound to perform the operation, even at the risk of an error in diagnosis?

Dr. Barton C. Hirst.—I was, some time ago, called to a case

in consultation, which presented a clear history of extrauterine feta tion: cessation of two periods, hemorrhage with the discharge of deciduous membrane, a distinct tumor to one side of the uterus, and the subjective signs of pregnancy, with swelling of the breasts, and vomiting. Dr. Hamill and myself urged operation, but the family being dissatisfied, we were discharged. Another physician was called, and Dr. Parish was consulted. He recommended the use of electricity, and a current was applied, with relief of the symptoms, and, I believe, complete cure of the patient. There may be a varicose vein in the broad ligament, which, having burst, may present all the signs of an extrauterine fetation after rupture of the sac. I have had two such cases; in one case, I opened the abdomen and found a blood-tumor in the layers of the broad ligament, with considerable blood in the peritoneal cavity. From the history and physical signs, I am quite sure that this was not an extrauterine pregnancy.

I saw, in consultation, not long ago, a fatal case of this kind after labor. The labor was a difficult one, and ended by craniotomy. There was rupture of a vein in the broad ligament. The bleeding was first between the layers of the broad ligament. This then ruptured into the peritoneal cavity, and the woman died. There was no rent in the uterine wall. Such cases might be mistaken for extrauterine fetation.

Dr. M. PRICE.—In most of these cases, all that we can make out is that there is something which should be removed; but, as to a distinct diagnosis of extrauterine pregnancy being made, I do not believe that it is done one time in ten. Dr. Parvin, in his case, would not have been surprised to have found distention of the tube from any cause. In a case which presented all the symptoms of uterine pregnancy, and where I expected to find this condition, I found a pair of large pus-tubes. I have seen twenty or twenty-five cases of extrauterine pregnancy, nearly all of them ruptured tubal pregnancies. It does not interest us a particle whether the cases were diagnosticated or not. There is trouble present of such a serious character that it does not become us to lose a single moment. Most of these cases come into the coroner's, and not the surgeon's, hands. Delay in operating is adding ten per cent. to our mortality. It is our duty to operate on the first indication, and, if we are mistaken, to thank God for the absence of so serious a condition.

Dr. JOSEPH HOFFMAN.—I have twice operated for extrauterine pregnancy, and did not find it. I operated once for something else, and found extrauterine pregnancy. The first case presented the signs of extrauterine pregnancy to even a more marked degree than that of

Dr. Hirst—coming on after a sterility of eight years, a retroverted mass, flooding, and violent pain. At the operation, I found two pus-tubes. She was pregnant and miscarrying, and completed it after the operation. The second case was almost on a par with this. In the third case, I operated for a pus-tube, and found extrauterine pregnancy. The trouble is, that these men who claim positive diagnosis, do it from a single case, which, though by no means certain at the time of operation, resolves itself into an absolute diagnosis when they come to publish it. It is the dreams and the nightmare of desire to publish something startling, which make the diagnosis. There are such a variety of conditions in the pelvis, giving rise to these symptoms, that it is impossible to say absolutely what we have. I have gone over Dr. Thomas's list of cases, and found that, so far as absolutely correct early diagnosis is concerned, it is worth nothing. In only one case, if my memory serves me, was there a *post mortem*. In three or four, in which death occurred, there was no *post mortem;* and in the others, where the current was used, the diagnosis, in most of them, was made after symptoms of rupture.

The treatment by the electric current is advocated by Reeve, who strangely falls into a fallacious argument. He says that if we use electricity in cases where there are symptoms of extrauterine pregnancy, and these symptoms disappear after the use of the current, why not call them extrauterine, as we do in other diseases where diagnosis is made, and a line of treatment adopted with good results, and illustrates the argument by the use of mercury in syphilis. If the effect of electricity was as well established as that of mercury in syphilis, the argument would be more logical. When we feel that rupture has occurred, electricity is a dangerous thing to tamper with. The principal danger is in delay. The longer the growth is allowed to continue, the greater the danger from adhesions, rupture, and complications which cannot be foreseen.

Dr. J. Price.—There are some interesting facts in connection with the history of this subject. It is curious that, a few years ago, a man with an experience of one doubtful case, should discuss the subject before the American Gynecological Society. It is also curious that the same man, with a single experience of a woman sterile five years, having pelvic pain, irregular menstruation, a delayed period for six days, and recurring attacks of pain, should claim to have killed the fetus of an extrauterine pregnancy by the use of electricity for ten *séances* of half an hour's duration each, on consecutive days. Then follows another man with a history of one case, and another in consultation. The man with an experience of one case used electricity,

and the case passes into the hands of another, who writes to the first that he is going to operate. The first physician at once writes not to do it, as he has killed the fetus; while the operator already holds in his hands a large hydrosalpinx.

Dr. Baldy, in a recent paper in the New York *Medical Record*, lays down certain propositions, and makes the diagnosis easy in many cases. He has forgotten that many of these patients die, as if with a ruptured aneurism, before the woman suspects that anything is wrong. These cases go to the coroner. In the cases that reach the surgeon, the hemorrhage has not been so great.

It is interesting to refer, in this connection, to the cases of Dr. Edis and Dr. Bantock. Dr. Edis found, on one side, an extrauterine pregnancy, and on the other, a small ovarian cyst. Dr. Bantock found, on one side, an extrauterine pregnancy, and a pus-tube on the other. I have here an enormous tubal pregnancy, with rupture at the pavilion, and the abdomen filled with blood. On the other side was a beautiful hydrosalpinx.

One of the prominent cases on record, I saw a few hours before the operation. We agreed that there was a doubtful history of extrauterine pregnancy, but no prominence was given to this point. It might have been a small ovarian or dermoid cyst, or a large hydrosalpinx. When the abdomen was opened, every one expressed great surprise at the presence of tubal gestation. The same case has flourished over the world as a case of positive diagnosis. This is the case in which letters were written inviting different men to the operation; but the letters were written after the operation. This case will not bear close scrutiny. If we look over the transactions of the American Gynecological Society, we shall find that the men who have had the least experience speak most positively.

Dr. NOBLE.—Monday, a week ago, I removed an extrauterine pregnancy, which was rather unusual in the condition present. In my case, the woman had skipped the period in August. There was nausea and other symptoms of pregnancy. In September, a week before the sickness should have occurred, she began to flow freely; then had cramps, and fainted in the street, and afterward had fainting attacks. I saw her two weeks after the beginning of the flow. At one time, while in the water-closet, she passed what she thought to be a large clot. The opinion of her physician was that she had had a mis carriage.

I found a mass on the left side, pushing the womb to the right. I recommended an operation, which was not consented to for some days. In the meantime, the hemorrhage continued. The patient was seen

by Dr. Kelly, and we agreed that it was almost certainly an extrauterine pregnancy. At the operation, I found blood in the peritoneal cavity. The blood was almost entirely clotted. The ovum was attached, not far from the uterus. The hemorrhage had taken place in the tube, and the clots had been forced out through the fimbriated extremity. On the other side there was a hydrosalpinx. She had also had the rectal tenesmus. She has done well since the operation.

Dr. B. F. Baer.—I wish to go on record as one who believes that it is as easy to diagnosticate extrauterine pregnancy as any other condition within the abdomen (as hydrosalpinx or pyosalpinx) positively; but the man who says he can make such a diagnosis positively, is an unsafe man. Dr. Taylor assisted me some five years ago in a case of extrauterine pregnancy in which the diagnosis was made. The fetus had advanced to the age of two and a half months, and the symptoms which have been mentioned were present. There was enlargement of the uterus, and I heard the placental bruit. I felt fluctuation in this sac, and was almost certain that I detected ballotment. I, however, operated in an unscientific way, cutting through the vagina. I got the embryo, but the patient died.

Dr. M. Price.—Did I understand Dr. Baer to say that he heard the placental bruit at two and a half months?

Dr. J. M. Baldy.—How did Dr. Baer detect ballotment at this early stage?

Dr. Baer.—I have heard this murmur in normal pregnancy at two and a half months. I believe that it is not yet clearly understood whether the murmur is placental or simply a uterine murmur. It is, however, due to pregnancy.

In regard to ballotment, given a sac filled with liquor amnii and an embryo dangling in it, I think that ballotment could be readily detected.

Dr. William Goodell.—Dr. Baer is right in regard to early ballotment. This is said to be detected much earlier in extrauterine fetation than in natural pregnancy.

Dr. J. M. Baldy.—I know there are cases on record, but I doubt the occurrence of ballotment in these. It could not possibly have occurred in such specimens as that presented by Dr. Goodell a few months ago, or those of Dr. Parvin and mine presented to-night. And so it has been with all the cases I have seen. Reference has been made several times to my paper in the *New York Medical Record*, in which I lay down three propositions: The first is, that in a certain proportion of cases of extrauterine pregnancy in the early stages, the diagnosis is easy and unmistakable. The second, that in a

certain (quite large) proportion of cases, sufficient symptoms are present to more than warrant a diagnosis of extrauterine pregnancy, such a pregnancy not being present. The third, that in a certain other proportion of cases the symptoms, until rupture has occurred, are entirely wanting, or are of such a dubious character as to in no wise warrant such a diagnosis. These propositions have been abundantly sustained by the cases reported to-night. Cases have been reported in which the diagnosis was made and the condition found, and there are enough of these cases on record to show that the diagnosis can be made at times. Then we come to the second group of cases, in which the diagnosis is justified by the symptoms, but something else is found. This I sustained by cases of my own, and it has been more than abundantly substantiated by cases reported to-night by Dr. Goodell, Dr. Hirst, Dr. J. Price, Dr. M. Price, and Dr. Hoffman. Dr. Johnson, of Washington, has reported a similar case. The third proposition is also sustained by cases reported to-night (in addition to my own) by Dr. Hoffman, Dr. J. Price, and others. If there are well-substantiated cases in which the diagnosis was not made and extrauterine pregnancy found, and, again, if we operate for extrauterine pregnancy, the symptoms justifying such a diagnosis, and something else is found, I cannot see how any sensible man can claim that it is possible to make a positive diagnosis. I agree with Dr. Hoffman that Dr. Thomas's cases are utterly worthless from a diagnostic point of view; nor does Dr. Thomas himself hold that it is always possible. The men who claim that a positive diagnosis can be made have most signally failed. For instance, the case of Mann, of Buffalo, which went into the hands of Wylie, who operated and did not find ectopic gestation; the case which Buckmaster, together with other medical talent, treated with electricity, even to puncturing, I think, and finally pronounced it normally pregnant; the case of Kelly, of Philadelphia, the diagnosis of which case has to-night been denied by two eye-witnesses, as well as others.

It is noteworthy that the men who claim the most on this subject, have had the least experience.

Prof. S. B. Howell has resigned his chair in the University of Pennsylvania, in order to devote his whole time to his classes in the Medico-Chirurgical and Philadelphia Dental Colleges. The Board passed a vote of thanks to Professor Howell for his many years of excellent service. Edward D. Cope, one of America's foremost geologists, was elected to succeed him.—*Times and Register.*

PROCEEDINGS OF THE BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Reported by W. H. BERGTOLD, M. D., Secretary.

Stated meeting Tuesday, Nov. 12th, at 8.15 P. M., in the Library of the Polytechnic Institute, No. 9 West Mohawk street.

The President, Dr. A. A. HUBBELL, in the chair.

Dr. J. D. FLAGG was proposed for membership.

Dr. J. W. GROSVENOR then read a paper, entitled "The Therapeutic Value of Alcohol." [This paper will be published in full in a future number.—EDITOR.]

DISCUSSION.

Dr. J. H. PRYOR called attention to the fact that laterally there have appeared a number of articles on the use of alcohol in the various journals of this country. Many of these writers seem to hold extreme views, as did the present essayist of the evening. To say that alcohol is used by the profession to-day in a too free and lavish manner, is, in Dr. Pryor's opinion, not true, and does to the members of the profession generally an injustice; though, at the same time, it is not to be denied that the use of alcohol may be much abused, and that we, to-day, occasionally find a physician who thus errs. While there can be no doubt that in times past too much alcohol has been used as a medicine, it is not to be denied that its employment is being gradually dropped, and that its true position as a therapeutic agent is becoming better appreciated and known. The present writer makes a mistake, as have many others, in applying deductions drawn from experiments on healthy people and animals, to persons who are ill. This is entirely faulty and, instead, we ought only to base our arguments on facts observed from the use of alcohol clinically. That it is a poison no one attempts to deny, but, however, it is only so when used in quantities greater than its therapeutic dose, or in conditions not of disease; it is no more a poison than are dozens of other drugs when used in a parallel manner. If alcohol be a food at all, it is a sustaining one, and one not of the reconstructive variety. Alcohol has no peculiar effect on any particular disease, but we use it for a general effect in many diseases. It acts to prevent tissue waste, either directly or through the nerve centers. In typhoid fever it acts markedly as a stimulant, not as a depressant. It is a narcotic when given to a healthy organism, when given where there is no indication, or when administered in too large a dose. Its antipyretic effect is exhibited almost exclusively when given in a condition of health. Those effects upon the blood which have been ascribed to it, ought

not to occupy our attention even momentarily, for we never give it in quantity sufficient to approach a percentage in which blood changes are seen. Statistics, while useful in certain ways, are not always to be accepted as final, and this seems particularly true concerning the use of alcohol in typhoid fever.

In typhoid fever, alcohol is only to be used when certain conditions arise which are rather difficult to formulate: in this disease it certainly lowers the pulse, clears the tongue, lowers temperature, and tides over grave crises. For a best exhibition of these effects, it ought to be used in small doses, frequently repeated. In delirium tremens its use ought, in the majority of cases, to be discontinued at once. There is, however, a class of cases where this practice would be very injurious and injudicious; these are the cases of chronic alcoholics, who have been accustomed to its use for years. In shock it is of marked value, to be given in small doses, for, if otherwise, the stomach often refuses to accept it all.

Dr. STRONG was much pleased with the paper, and the opening of the discussion.

He believes that it is wrong to condemn alcohol because we call it a poison, and that it is a mistake to argue for its expulsion from effects produced on the healthy person.

Its value in some diseases is, in his mind, established beyond controversy. He was disappointed that the essayist had not mentioned its use in tuberculosis, and in other conditions of excessive secretions, as in the bronchitis of the aged. It is possible to set up the alcohol habit by its free use, and we should, therefore, be cautious to whom we give it.

Dr. BARTLETT said he had never brought on the habit by its use. He would feel at a loss if its use were prohibited. It is of particular usefulness in snake bites, and it is also given with pleasant results in persons of melancholic habit. Its position relative to typhoid fever is uncertain.

Dr. BURGHARDT expressed the opinion that we should always be cautious in its use. He had seen a case where it undoubtedly produced an attack of apoplexy.

Dr. BRECHT was formerly accustomed to use alcohol considerably in cholera infantum, diphtheria, and typhoid fever, but latterly he has not employed it nearly so much, preferring other stimulants, which, in his experience, seem to act just as well. He wished to raise his voice against the giving of beer, etc., to children, a practice particularly common with the Germans.

Dr. Van Peyma.—While he was much pleased with the paper, yet it struck him as having been written with too much of a preconceived notion, instead of a desire to make an impartial review. He, also, thinks that alcohol should be used in small doses, frequently repeated. To his mind, it is very difficult to clearly define the line between stimulants and narcotics. He has found that beer is often of much use as a stimulant to the appetite. Here, as with many of the wines, the resulting effect is not due to the contained alcohol alone, but also to the various bitters, aromatics, etc. With Dr. Pryor, he agrees that in old persons suffering with delirium tremens, the use of alcohol ought not to be suddenly discontinued.

Dr. Hubbell was much interested in the paper, and in the main concurred with its points. He did not think that absolute reliance could be placed upon statistics, and particularly those relating to typhoid fever, for here there are so many diverse factors to be considered.

Dr. Grosvenor, in closing the discussion, said that notwithstanding the results of the evening's debate, he still believed that too much alcohol was prescribed by the profession. If we admit that it is a poison, then we are in duty bound to exercise as much care in its use as with any other poison. While in some diseases the effects of a drug are different from when used in a normal condition, yet some drugs exhibit very similar effects when used in a normal as in a pathological condition.

If an observer compiles a set of statistics, and has confidence in them himself, it seems but fair for us to at least have some trust in the statistics of others; while statistics may not be reliable, yet, for that matter, very few things in this life are. In the delirium tremens of old people he has had but little experience, and he can imagine that in these cases the sudden withdrawal of alcohol might be deleterious, yet this is not at all so with young patients.

The next meeting will be held Tuesday evening, December 3, 1889. Subject: Chorea.—Its Etiology and Relations to other Diseases, by Dr. M. B. Folwell; Its Pathology, by Dr. S. Y. Howell; Symptoms, Diagnosis, Prognosis, and Treatment, by Dr. H. D. Ingraham. To be further expressly discussed by Drs. Crego, Hopkins, Putnam and Krauss.

He Had Been There.—George: "What a fine building across the street." Charles: Yes; but the owner built it out of the blood, aches, and groans of his fellow-men." "Ah! A rumseller, I suppose?" "No. A dentist."—*Toronto Grip*.

THE BUFFALO PATHOLOGICAL SOCIETY.

REGULAR MEETING, NOVEMBER 15, 1889.

The President, Dr. ROSWELL PARK, in the chair.

Dr. IRVING M. SNOW brought an old lady suffering from the rare condition of word blindness.

Dr. PUTNAM and Dr. KRAUSS made several tests at Dr. Snow's request, demonstrating the conditions mentioned in the report.

Dr. WM. C. KRAUSS then presented the following case:

Male, aged 34 years; painter by occupation. No history of syphilis, alcoholism, or neuropathic taint.

August 23, 1889, while at work on a scaffolding sixteen feet high, was suddenly precipitated to the ground, and received a contusion over the left temporal fossa. Was awakened the following morning by a hissing sound in his head. An examination showed it to be an aneurism of the left internal maxillary artery, based on the following symptoms: Pulsation, slight swelling and redness over the left temporal fossa; the presence of a bruit, regular in rhythm and intensity, synchronous with the apex beat, which disappears on pressure over this region. Cessation of the bruit by pressure on the left external carotid artery, at the inferior posterior angle of the inferior maxillary bone; no modification by pressing on the temporal artery. The treatment thus far has been ergot, iodide of potash, light cathartics, and abstention from excesses. For radical treatment, it is proposed to ligate the external carotid artery at the inferior posterior angle of the jaw.

After the reading of the minutes, the paper of the evening was presented:

ANNUAL ADDRESS OF THE PRESIDENT.

BY ROSWELL PARK, M. D.

It has been my deliberate attempt for this evening to establish a precedent which, I trust, you will insist that my successors in office shall follow: that is, to make an informal address to you upon some subject in pathology, or the cognate branches, at the conclusion of this term of service. I do this with a conviction that it is to the best interests of our Society. Yet, before I begin with the topic to which I solicit your attention this evening, permit me a few rambling sentences. I desire heartily to congratulate the members of this Society upon the work accomplished during the first year of its existence.

It has been always of a dignified and elevated character, and would have been creditable to any society in this country. I have heard papers of vastly lower standard than those presented to you in organizations whose names are everywhere known, and whose publications are widely read. You have certainly done the best work in this part of the State, since we began working together, and I am

intensely in earnest when expressing a hope that your membership may steadily increase, and that your interest in its objects and its meetings may never flag.

I should, moreover, be unjust to myself and ungrateful to you, did I not acknowledge the great compliment you did me when you made me your first presiding officer, and confess that it has been with a peculiar pride that I have endeavored to act in that capacity. I trust that you may have many more energetic, even enthusiastic, presidents, but I am sure you will never have a more devoted one.

It has been somewhat difficult for me, as a specialist, to find a topic which we all possess in common, as it were, and which might appeal to each of you with something like equal interest. On reflection, it occurred to me that we all, alike, no matter what our specialty or our practice, have to contend in one way or another with that arch-enemy *pus*.

Pus, like our next door neighbor, is seen so often that we pay too little attention to it, yet we cannot overestimate the importance of a better acquaintance with it than we enjoy to-day. This, then, is my theme to-night, for which I crave, if need be, your indulgence.

What is pus? A few years ago this question was comparatively easily answered. That it is now a query to which it is extremely difficult to give an explicit answer, is simply an evidence of progress in the study of pathology. A former and revered teacher used to express it tersely that "pus is dead or dying blastema." Even the term blastema is now almost obsolete. According to Robin, *blastema* means "the substance resulting from the elaboration of nutritive material furnished to the anatomical elements by the blood." Foster's dictionary gives as other definitions: "Undifferentiated embryonic tissue; the material out of which a part is to be formed; and, "a free or parenchymatous plastic exudate." These definitions are sufficiently succinct to indicate that dead or dying blastema must be good and valuable material going or gone to the bad. In a rough and off-hand way, therefore, this conception of the term *pus* may be considered sufficient as a working basis for a further study of the substance itself.

But, as generally used by the clinician, the term is applied alike to the contents of acute or cold abscesses, which have never known exposure to the air, to the discharge from mucous, as well as granulating surfaces, and to the fluid or semi-solid results of degeneration of various tissues. Are these various substances identical, and do they deserve the same name? This is a vexed subject in the domain of surgical pathology, to a discussion of which this paper is in the main devoted.

Many and many a time I have seen my operation wounds heal by primary union, under an aseptic dressing. Of them I could say, as we usually do under such circumstances, they healed without suppuration. And yet, if the drainage-tube—supposing one to have been used—had been left *in situ* a few hours too long, there would be found about its opening, or in its lumen, a drop, perhaps a few drops, of creamy, semi-solid material, which we would ordinarily call pus. Is this material identical with the pus from an acute abscess? To this inquiry I have devoted no small time and study, both at the desk and in the laboratory, and such conclusions as I have reached shall appear further on.

There is a popular expression: "There are dogs and dogs." Can we not also say, "There is pus and pus?"

This subject can only be approached by a careful study of the gross and minute appearances of pus, and the circumstances under which it is produced. A study by which these questions may be answered is inseparable from a study of inflammatory phenomena, with which I must then, for a little while, detain you.

Virchow has made this distinction between physiological and pathological irritation (*Reiz*), that in the former case the function of the cell, or the collection of cells (the organ), is simply increased; in the latter it is disturbed. The entire process by which an alteration or disturbance of nutrition is thus brought about by irritation, he considered to be a *progressive process*, but not necessarily an inflammation. It might result in hyperplasia (numerical cell-increase), inflammation, or tumor formation. He classified irritations as mechanical, chemical and physical, *i. e.*, thermic and electrical. Only such irritations as lead to inflammation interest us here, and, as we shall see, in considering pus formation we shall have to practically limit ourselves to a consideration of microörganisms as the sole causes of such irritation.

At that time (1870) Virchow distinguished *four* degrees of the inflammatory process:

1. A form distinguished—aside from changes in the cells themselves—by watery, serous, albuminous, or mucinous exudate.
2. A form in which the exudate is fibrinous (croupous).
3. A form in which pus is produced.
4. A form characterized by hemorrhagic exudate.

He considered these as progressive stages of one and the same kind of irritation, belonging to either of the three classes before named.

Applied to the study of the repair of wounds, this doctrine taught that mechanical irritation (which caused them) alone was sufficient to explain the formation of pus, that it was unnecessary to seek further for its cause, and that tumefaction of the wound edges bears the same relation to failure to secure primary union that suppuration does to healing by granulation. This opinion seemed the more plausible, since the wounds whose borders presented least tumefaction, were those which healed most kindly *per primam.*

Attack upon this doctrine was speedy and determined. Cohnheim had published in 1867 his studies of the diapedesis of the leucocytes, and the importance of this publication, as well as its accuracy, were almost universally recognized; while the leading part heretofore played by the connective tissue corpuscle, according to Virchow's views, had now, at least, to be shared by the wandering leucocyte. This opinion has been since strengthened, to the point of conviction, by the labors of Cohnheim, Ziegler, and their scholars, so that now it is possible to find an explanation for such neoplasms as belong to the category of inflammatory, regenerative, hyperplastic, or callus, in the known properties of the leucocyte.

I say it is now *possible*, even *probable*, but hold that even yet we are not in position to go to extremes. Cohnheim's enthusiastic followers claim that Virchow has considered innumerable cells to be descendants of connective tissue corpuscles, which are, in fact, escaped leucocytes. Even granting this, there has been no sufficient evidence yet adduced to show that the connective tissue cells are necessarily or absolutely passive, and take no part in cell proliferation. Consequently, it seems as if, in this controversy, the middle ground is certainly the safer.

But the attacks upon Virchow's dicta were made not alone by the histologists, but by those who, like Klebs, contested them upon etiological ground. By 1872, in Germany, the Listerian system had been pretty well adopted, and there no longer remained a doubt but that wound suppuration was caused by contamination of instruments, fingers, dressings, etc., with bacteria. Other infectious inflammations, *e. g.*, endocarditis and erysipelas, were correctly ascribed to microbes, and, in 1878, appeared Koch's masterly work on Wound Infection. Now, the importance of mechanical, chemical, and physical irritations, as agents producing suppuration, was lost in the overwhelming magnitude of the freshly studied "specific reaction (suppuration) due to a specific virus." To be sure, Virchow retorted, in 1880, that we did not know the exact nature of this specific reaction, and that it must be either chemical or mechanical, which is undeniable; yet it is

equally undeniable that bacteria did not figure as irritants, when he so fully discussed the causes and consequences of inflammation, and that he remains to-day rather a sceptic as to some of the new teachings in this respect.

The introduction of the antiseptic method has effected both a revolution and a revelation. It was till lately held that the bacteria of putrefaction were also at the same time the pyogenic. In 1881 Virchow and his scholars claimed that suppuration was not invariably produced by microörganisms, and by them alone, but that when it displayed a milder form, less progressive, it was brought about by purely mechanical causes,—fractures, wounds, etc. But the researches of Ogston, Rosenbach, Passet, and numerous other close and diligent observers, clearly demonstrated that suppuration has but one cause, that it is of parasitic origin, and that the pyogenic bacteria are not to be confounded with the saprogenic or putrefactive.

Studies directed especially to the elucidation of these hotly-disputed questions resulted in unexpected advance. Strassburger, Flemming, and others found that the nucleation which precedes cell proliferation afforded an interesting subject by itself, and karyokinesis is now a well-recognized link in the chain of cell-progression. Not alone in the leucocytes is the karyokinetic process known; it has been studied in the connective tissue cells by Scheltema, Grawitz, and Ribbert. This fact lends additional argument in favor of a position midway between the extremes of Virchow and Cohnheim. Whether the inflammatory irritant acts primarily upon the connective tissue elements, the capillary vessels, the muscular and the fatty tissues, whereby active hyperemia and diapedesis of leucocytes are excited, or whether the reverse is true, will depend upon whether one sides with Virchow in the former case, or with Cohnheim and Weigert in the latter.

According to the views of the humoral pathologists, of whom Rokitansky was the father, pus corpuscles, which were seen in the exudate known to have left the vessels, were supposed to have originated from it, hence the definition of their day—pus is dead blood. The ultimate cause of inflammation and suppuration were sought in the chemical condition of the blood; and the dyscrasiæ, or varieties of badness of the blood, were hence considered the causes of these phenomena. Although the old humoral pathology is now abandoned, it will be seen that it, nevertheless, took cognizance of certain truths, since such dyscrasiæ as diabetes, syphilis, and gout are well known to be predisposing causes of inflammation, though not, *per se*, of suppuration.

It was Virchow who decently interred this humoral doctrine, by showing that the formation of cells out of such exudates alone was impossible. By establishing the dictum *ominis cellula e cellulo*, he founded the new cellular pathology, which was to medical science what Keppler's laws were to astronomy. Proliferation of cells now accounts for all tissue changes, either constructive or degenerative, though, by itself, it fails to supply all the knowledge of causes for which we earnestly yearn.

The misinterpretation of certain cellular phenomena by the cellular pathologists has been, in great measure, atoned for by the discoveries of Cohnheim and his pupils, who repeated, in every possible way, the observations first made in 1848 by Waller and Wallace, and who not only established the fact of the diapedesis of the leucocytes, but showed the vast importance of this process in explaining inflammatory action. If they, in their enthusiasm, claimed for their observations a solution of the whole question, they simply showed themselves human, and so liable to err.

While we are not, even to-day, in position to do more than calmly survey the fields where the pathologists of the recent past have excitedly contended for the accuracy of their own notions, yet we must admit that somewhat of truth was contained in the humoral doctrine, and that Virchow and Cohnheim are both right and both wrong; wrong, however, only in each trying to explain everything upon his own discoveries, and in refusing to see as much of truth in the teachings of his opponent as in his own.

After it was definitely understood that all surgical suppurations were of a parasitic origin, an effort was made to establish for the bacteria which caused them a property *sui generis*, as if they were neither chemical nor mechanical irritants, but possessed some hitherto unknown power. Such a theory prompted the investigations at once set on foot, during 1885–'6, and conducted with most painstaking diligence by Hüter, Rosenbach, Orthmann, Lutton, and numerous others, to be referred to again, by which it was demonstrated that pure or sterile chemicals alone could never produce suppuration. Scheurten, Klemperer, Strauss, and others, have repeated these demonstrations, and have made conviction certain, that *without bacteria or their products, suppuration never occurs*. Some difficulty and confusion have arisen from the fact that it was found, in prosecuting these studies, that certain bacteria were pyogenic in the tissues of one animal, and not in those of another. Thus, Grawitz and Dieckerhoff described a bacillus which thus varied in its effects according to the animal used. In 1887, Grawitz and de Bary showed that very weak dilutions of pure cultures

of the pyogenic bacteria (1 to 100, etc.,) were resorbed without provoking suppuration. The daily use of ordinary solutions for hypodermic use is simply a homely illustration of this fact. They further showed that such active fluids as turpentine and strong nitrate of silver solution, which are of themselves actively parasiticide, when used upon certain animals in certain amounts, produced a fluid resembling pus. This fluid, however, contained no bacteria, lacked all the septic or infectious properties of true pus, and was produced under conditions such as never obtain, save in the laboratory of the experimenter, and at his pleasure only, at the expense of extreme precaution.

This is an appropriate place at which to stop, *en passant*, and ask whether it is fair to call such a fluid pus? Its like is not met with clinically, and the pus which we daily meet with, and which causes us so much trouble, is the pus which we particularly study, and which is particularly deserving of the name.

Moreover, Grawitz and Scheurlen have both shown that, after the injection of Brieger's *cadaverin*, the same puruloid fluid is, or may be produced, lacking again all the specific properties of pus. It is, furthermore, quite probable that other ptomaines beside cadaverin, all of which are of bacterial origin, may be found to have a similar effect; though several, at least, have failed so far to evince it. Let it be well emphasized just here, however, that even these few substances which thus have been shown capable of producing this puruloid material, do so only under most favorable conditions of time, duration, quantity, and species of animal used for experiment. Weak ammoniacal and cadaverin injections are resorbed; those of greater strength are followed by watery or albuminous infiltrations, or, sometimes, by exquisite fibrinous exudates; used still stronger, they cause hemorrhage and this pseudo-suppuration; and, finally, when used in full strength, necrosis and gangrene are the consequences. It seems to me, upon both theoretical and experimental grounds, that this puruloid fluid, to which I have above alluded, may be properly considered the product of the death of the cells, resulting from the inflammation set up as the result of the injection of the irritant, *and that it is entitled to be considered pus only in the sense that it is dead blastema*, whereas we all know that the pus with which surgeons meet and contend is something more than dead or even dying blastema; that it contains, at least when active and septic, or infectious, living and lively organisms, whose activity and properties are most pernicious. Here is beautifully demonstrated the accuracy of one of Virchow's observations, which were, in the main, brilliant and comprehensive, that tissue reactions or

changes are not characterized by wide distinctions; that pus-production is not to be considered, by itself, as a distinct process, but only as a stage in the various possible inflammatory changes in connective tissue. Adopting this view, we see that the differences between the formation of this puruloid fluid and of pus, consist, in a pathological sense, in the penetration into the tissues of destructive germs, and, in a clinical sense, in the overwhelming pathogenic importance which the tissues and the purulent material now acquire by virtue of *their* presence and poisonous capabilities.

In clinical evidence of this feature, let me adduce the difference between an acute and a cold abscess. In the former, the bacteria are still alive and actively producing poisonous material, in proof of which we have fever, sepsis, local destruction, even death. In the latter case, nature has thrown up a sanitary cordon around the infected area in the shape of a thick investing membrane, the so-called but misnamed *pyogenic* membrane; inside of which the pyogenic bacteria have finally perished from starvation. These cold abscesses persist for months, even years, and may slowly disappear by well-known changes, while the patient presents few, perhaps no signs of fever, sepsis, nor any trouble. In other words, so long as bacteria can live and migrate, the fluid in which they disport themselves is pus, true pus; the fluid of an old, cold abscess is, according to this view, no longer pus. It was pus once; it is now *puruloid* in a second sense.

I have tried often to make cultures of pyogenic bacteria from this material, and failed, for reasons just stated; so have many other observers failed, and our position in this matter is indisputably the correct one.

The conspicuous difference between the teaching of 1871 and that of to-day obtains in this, that the degree of inflammatory disturbance necessary for the production of pus is *not* produced by mechanical nor thermal lesions alone, nor by even chemical irritants, except under most peculiar conditions. All suppurations met with in practice are due to bacterial agency, but mainly when, through this agency, nourished within the tissues or planted upon absorbent wound surfaces, they propagate themselves and give forth their peculiar chemical products, *i. e.*, ptomaines. Still, even then, without some predisposing lesion or condition in animals and men, in tissues capable of resorption, the commonly known pyogenic cocci are innocuous.

To this fortunate fact it is due that not every wound suppurates which is not immediately provided with an antiseptic dressing.

While there is, virtually, no pus without bacteria, the reverse is not necessarily true; for we may have even pyogenic cocci present in

relatively very small numbers without formation of pus. A careful study of these cases shows them to be those in which suppuration is imminent but not yet absolutely existant. For instance, there may be present a mild degree of swelling, with an albuminous exudate, all of which may be resorbed without pus formation. Whether we are to look with favor, or not, upon Metschnikoff's explanation of the disappearance of the relatively few bacteria present in such cases, is a matter which I hesitate to discuss; though, for my own part, I certainly think it offers a most attractive and reasonable explanation. Virchow's vivid picture of the "battle of the cells" surely loses nothing from Metschnikoff's treatment of the same subject, and phagocytosis is not yet disproved.

Virchow introduced the term "metastatic," and taught us what metastatic abscesses are, and the embolic process by which they are formed. The term loses nothing of its significance in the light of recent enlargements of our knowledge. The emboli which cause them are themselves infected, or even individual germs may be transported *via* the blood current as most minute emboli, and the only uncertain or unappreciated feature of this part of the subject is the determination of *why* minute and metastatic abscesses appear in one place and not in another. This may be, in some cases, the result of pure accident. In general, it compels us to fall back upon the explanation of a *locus minoris resistentiæ*. This may be some mechanical lesion, perhaps one too minute for our vision, or some fracture or previous inflammatory focus. Points of least resistance certainly do exist, though what so constitutes them may be beyond our ken. No one can long study minute pathology without being convinced that there may occur a certain vulnerability of tissue, so to speak, for which we can offer no suitable explanation. The communication of contagion from one person to another is common evidence of this fact. Tissues, then, which suppurate are vulnerable in this respect: they succumb, not having the power to resist infection; that is, the invasion of their bacterial enemies, and pus is the evidence of the conquest of vegetable cells over animal cells.

The matter is a difficult one to treat of. We have forms, and forms of pus-formation. As Grawitz has shown, we have to deal with pus under at least four apparently different circumstances:

1. Cases of typical pyemia.
2. Abscesses at points of least resistance.
3. Apparently spontaneous suppurations, *e. g.*, acute osteomyelitis.
4. Abscesses at points where there has been previously an inflammation.

He and Rinne have pointed out that the localization of pyogenic cocci is an affair of local determination, of interference with absorption, of chemical poisoning (through the circulation), of peculiar disposition of tissues (peculiar to various ages), of local ischemia, etc.; in other words, that by existing local irritations, by beginning inflammatory disturbances, or by regenerative cell proliferations, in spite of previously held opinions, the metastatic grouping of cocci is absolutely prevented.

Rinne divides suppurations into two groups:

1. Those determined by bacteria of peculiar activity, whose attack upon the organism is vigorous, *e. g.*, tuberculosis, actinomycosis, and epidemic cerebro-spinal meningitis, are caused by such organisms as seem to have a peculiar virulence, aside from any pyogenic properties.

2. Those determined by the members of the now well-known group of pyogenic cocci, particularly including staphylococcus and streptococcus.

We are confronted in this study by a most significant fact, which is very difficult of explanation. We have experimental proof that pyogenic cocci may be introduced into the tissues in no inconsiderable number—the same thing occurring every day in many accidental ways—that they may even be found circulating in the blood, without calling forth either suppuration or notable inflammation. According to the researches of Wyssokowitsch, they do not escape by the kidneys. What, then, does become of them? It would appear, as Grawitz says, that (*a*) they are dissolved, and disappear in the blood and other fluids; or that (*b*) there is an active conflict between them and the cells, a struggle for existence, which Virchow, as stated, has already called "the battle of the cells." The best known defender of the first view is Baumgarten, while Metschnikoff's name is most prominently associated with the second. Here, again, there is really much to be said on each side, and there seems to be no reason why each may not be right. According to Grawitz, the cocci usually die in pus after six to ten days, that is at a time when cell activity in the pus has ceased. Beyond a certain point, increase of cocci is impossible in pus, since the fluid becomes a too concentrated albuminoid material for them, just as syrups are too strong sugary solutions for the growth of fermentative and other organisms. On blood-clot they do not grow, though they will on blood-serum. Active penetration of cocci into white corpuscles is out of the question; therefore, when they are found in the interior of leucocytes, the latter must be regarded as the active agents. Certainly, cocci are found inside the pus-cells, for

anyone may see them there, and pus-cells, if we know anything about pus, were many of them originally leucocytes. Certainly, too, one cannot say which he has to deal with, when isolated, a pus-cell or a leucocyte, unless he finds it containing one or more cocci imbedded in it.

If, then, in this battle of the cells when once infection has taken place, the parasites are victorious, whether from overwhelming numbers, or from finding their enemies weakened from disease, then the infection of the surrounding tissues extends, and metastatic abscesses may finally or speedily result in the patient's death. On the other hand, if the tissue elements can successfully resist, then the battlefield is surrounded by a wall of young cell elements, which are very rapidly proliferated, and we have only a local abscess, in whose walls certainly takes place some of the phagocytosis which Metschnikoff has so successfully described. The course of that particular suppurative process is henceforth determined, not so much by production of some ptomaine as by the reaction of the cell elements most concerned. So soon as the bacteria die or are killed, in case the pus has not been evacuated, the pus-cells undergo fatty metamorphosis, gradually disappear by absorption, or perhaps caseate in part; for an indefinite time there remains a concealed scar to mark the site of the old battleground, and finally all local and general damage is repaired.

Herein, too, we see the difference between recent and old abscesses, in respect to the so-called "pyogenic" membrane. The protective cell elements thrown out about an infected spot, as alluded to above, are a matter of hours, or, at most, of a few days existence. No time is afforded for organization, nor is it desired. They are meant to serve only as a temporary barrier. Consequently, in an acute abscess we must not expect to find any such membrane; and, if it is folly to look for it, how much more so to describe it, as some have attempted to do. Only in the subacute abscess, or for some weeks pent-up collection of pus, can we find anything approaching it. But it is in the cold abscess, the long-existing one, *par excellence*, that we find the pyogenic membrane, so-called; that is, a membrane or lining which can be peeled or stripped off, though it is a sad misnomer to call it a *pyogenic* membrane since it is anything but this. It is the result of the organization and condensation of this zone of protective cell elements, which were thrown out when the infection and the encroachment were new, which was supposedly intended to be temporary, but has persisted as long as that encroachment from which it was originally intended to protect, and which has grown old and hardened in this

service. It is no more pyogenic, in the strict sense of the term, than it is chromogenic, and it should be dropped for a better term. If we must have a descriptive name for this membrane, and it is well that we should, I would like to suggest that we call it *pyophylactic*, as indicating clearly its function if not its appearance.

Pus proper comes to our notice in four ways :

1. In circumscribed subcutaneous collections of new formations —*acute abscesses.*

2. From the surfaces of shut sacs and cavities—*empyemas.*

3. On exposed tissue surfaces and granulating wounds—*pyorrheas.*

4. In the shape of *purulent infiltration* of subcutaneous tissues, more or less deeply occurring.

Pus proper, then, is a mixture of originally good cellular materials gone to the bad, suspended in fluid more or less albuminous, and containing at times adventitious substances, like biliary or hæmic coloring matter, etc.

When pus-cells have undergone fatty changes, when vital activity of all cells, parasitic or otherwise, has subsided, and when more or less of the fluid portion has been absorbed, leaving more concentrated, semi-fluid or solid residue, and when this has perhaps undergone caseous degeneration, then this material is not pus in the sense in which I am using the term, whatever it may have been originally. So long as it has the general appearance of pus, I would suggest for it the name *pyoid* or *puruloid.* When it is caseated, or is so thick that it does not flow, I would suggest that we then call it *archepyon*, that is to say, "originally pus." I introduce these new names to you with considerable hesitation and with becoming modesty, yet I am convinced that if we had names for the different materials, or the different conditions of the same material, it would conduce to clearer notions concerning the substances themselves.

CONCLUSIONS.

1. Inflammation is, in effect, a disturbance of cell nutrition, along with cell proliferation, causing a recurrence to the embryological condition of certain of the cells of the tissue most involved.

2. This embryonal condition means a reversion to the form of those medullary or indifferent corpuscles, from which in the beginning of its normal development the tissue was built up.

3. Congestion, and even stasis, though they precede inflammation, do not necessarily cause it. They may subside before cell nutrition has had time to suffer. They may simply cause temporary cell activity.

4. Medullary, indifferent, or embryonic cells arise not only from the recognized cells of the tissue, *i. e.*, its active protoplasmic elements; it is probable that the intercellular or basis substance, which was originally produced from embryonic tissue, may again give rise to them.

5. When such new formed embryonic cells advance again to the condition of basis substance, much of the inflammatory new formation has subsided. When with this is coupled restoration to the circulation of exuded fluids and such red and white blood corpuscles as are capable of return, and when all other newly-formed cells are liquefied and absorbed, then the process of *resolution* is complete.

6. When both inflammatory and new embryonic cells establish a reticular intra-connection, then we have a true hyperplasia.

7. When into this collection of cells, parasitic vegetable cells (bacteria) are intruded, no matter how, blood-vessels break assunder, basis substance is dissolved, the individual animal cells are attacked, and these are now suspended in an albuminous fluid and represent pus corpuscles, and we have now a collection of pus.

8. Pus-cells are no longer fit for any useful purpose, but constitute a source of offence. Henceforth they are treated as foreign bodies, of which the tissues endeavor to rid themselves at once. Nature extrudes them in the direction of least resistance, and hence we have the well-known phenomenon of the "pointing" of the abscess.

9. So far as we can learn, bacteria, and bacteria alone, can determine, in the human body, such a series of changes as lead to the formation of pus, *i. e.*, pus within the meaning to which I have endeavored to confine it. Whatever results may follow experimental introductions of a few chemicals into the tissues of some of the lower animals, such experiments find no parallel in our clinical experiences. Moreover, as stated above, the product of such experiments is not pus, but puruloid; it lacks the essential pathogenic and noxious elements of pus,—the microörganisms which confer upon it its infective and toxic properties.

10. We are then prepared to make the brief and explicit statement that *clinically*, at least, we have no suppuration except such as is produced by bacteria; in other words, that pus is a product of parasitic origin.

Upon motion of Dr. F. H. POTTER, a vote of thanks was tendered the President for his address.

Beginning the discussion, Dr. BERGTOLD described the process of inflammation set up under the finger-nails by the use of arsenic in taxidermy. He thinks the purulent material resulting therefrom contains no bacteria. He agreed with Dr. Park's definition of pus.

Dr. S. Y. Howell believed Dr. Park to be correct.

Replying to a question of Dr. Pryor's, as to bacteria in pleuritic effusions, Dr. Park gave some of the results of Fraenkel's investigations.

Dr. Rochester raised the question why two fluids, having the same physical properties, should not both be called pus. Dr. Park said a fluid containing bacteria, and, therefore, septic and infectious, should be called pus, while material resembling it, but not septic nor infectious, should be called puruloid on the grounds given in his paper.

A candidate for membership presented a spindle-shaped tumor of the umbilical cord, the size of a child's fist. It was supposed to be a myoma.

Another candidate gave an infant's heart having a patent foramen ovale. The child died asphyxiated four hours after birth, and was the third child dying from such a condition, born of the same mother.

In the business meeting occurred the annual election of officers, which resulted as follows:

President—Dr. DeLancey Rochester.
Vice-President—Dr. Charles G. Stockton.
Secretary and Treasurer—Dr. Eugene A. Smith.

Journal Abstracts.

THE STATUS OF COCAINE IN SURGERY.

By JOHN A. WYETH, M. D., New York.

The *International Journal of Surgery*, for October, 1889, contains a useful article by Professor John A. Wyeth, of New York, upon "The Status of Cocaine in Surgery." After dwelling briefly upon the history of cocaine, and eulogizing Koller, the demonstrator of its anesthetic properties, the author introduces his subject by alluding to the dangers of the drug. Idiosyncrasy is first mentioned as accounting for some of the accidents which have occurred. To avoid such occurrences, "the general rule should be, to begin with the minimum, gradually increasing as slowly as possible, always watching the pulse, the face, the respiration, and the pupil." The dosage varies in different individuals, and in the same individual at different times. It should never be given to children under ten or twelve years of age. In these latter cases the author thinks that the sight of the

blood and wound, and the excitement of the operation, sometimes cause the unpleasant symptoms, but not always, absorption of the drug being a cause as well.

Absorption is characterized by various symptoms, exhilaration, convulsive movements, dilatation of the pupil, and increased heart action.

Professor Wyeth prefers a four per cent. solution hypodermatically. A handy formula, approximately four per cent., runs thus: Distilled water, one ounce; cocaine hydrochlorate, grains twenty, and boracic acid, one to three grains.

The technique of operations upon the extremities is thus described, amputation at the last interphalangeal joint of the finger being taken as an example: "The hand is cleansed by immersion in 1-2000 sublimate solution for half an hour. The anesthetic may be employed in two ways, viz., *directly, injected in the lines of incision, or indirectly, injected above the nerves at the base of the finger.*" In the author's opinion, cocaine directly injected retards, to a slight degree, union and repair in wounds. A hypodermic syringe, with delicate and clean needles, is selected, the quantity of cocaine accurately measured, the screw on the piston being run down to prevent the injection by accident of more than a few minims. The finger is constricted by means of a piece of rubber tubing around the digit, or its junction with the hand. The needle is inserted, just before applying the rubber, through the skin of the lateral aspect of the dorsum of the finger, an inch from and on the distal side of the ligature. Two minims are ejected, the needle pushed on one-fourth of an inch further, two minims more forced out, and so on, until the point rests under the skin on the plantar aspect of the digit, when a large quantity is ejected. One-half the finger is thus injected, and the operation repeated on the other half. The patient feels a smarting, burning pain, the tourniquet is tightened, and absorption awaited. Massage hastens this process. In about two minutes insensibility should supervene, and the operation begun. Repeat the injection if the anesthesia be insufficient. Fifteen minims is usually found sufficient, but thirty may be given without risk. The operation finished, the constriction is slowly and cautiously removed to prevent suddenly throwing a large amount of cocaine into the circulation. It is, therefore, let out in small quantities by loosening the band *for a minute*, when the circulation becomes restored and the wound bleeds freely, thus giving escape to the cocaine solution in the arterioles. The rubber is then tightened for two or three minutes, during which time the sutures and dressing are applied. Thus by alternately loosening and

tightening the tourniquet, only a small quantity of the solution is admitted toward the heart and nerve centers, which thus become gradually accustomed to its presence. The advantages of the *direct* method are: (1) The rapidity of the anesthesia (practically instantaneous); (2) the small quantity of cocaine employed; (3) the escape of a good part of the injected solution through the wound of incision. Either one or the other of these methods is so generally applicable, that almost all the surgery of the fingers and toes can be performed under cocaine anesthesia. When more than one digit is involved, the large quantity of cocaine necessary might endanger the patient, and here general narcosis is to be preferred. The author then proceeds to enumerate various operations in which cocaine can be used as the anesthetic.

Among these are operations in Dupuytren's contraction, palmar phlegmon, suturing of tendons, limited bone removal, extirpation of ganglia at wrist, and all other kinds of smaller neoplasms, and all minor operations upon the legs, thighs, forearms and arms. When more than one drachm of the solution is used, Professor Wyeth recommends injecting a limited quantity, and then operating in the line of the injection, thus giving escape to a good proportion of the solution used.

Operations on the trunk require greater care, because of the immediate absorption of the solution. The author takes the removal of a fatty tumor for an example, and advises as follows:

> In the proposed line of incision carry the needle point into the deep layers of the skin (not into the subcutaneous fat, for it is desired to reach the end organs of the sensory nerves in the papillary layer), and force out one-half to one minim, advance the needle a fourth of an inch, and repeat the injection, and so on as far as the needle will reach from the original puncture. Re-insert the needle and repeat the method just described, until the line of anesthesia is established. In this manner an incision as long as three inches can be made without pain, by the judicious distribution of from ten to fifteen minims of a four per cent. solution.

Pallor of the skin indicates anesthesia, which is almost instantaneous. Incision is made in the middle of the anesthetized line, and continued laterally until pain is experienced, which may be an inch or more on either side. The operation is proceeded with by half a minim, or more, at all sensitive points, and working directly in the line of injection. Thus may be removed fatty tumors, three or four inches in their longest measurement, cystic tumors, two inches or less in diameter, all forms of neoplasms, angiomata, moles, cicatrices, etc., not covering a larger area than four square inches. Superficial foreign bodies can be removed and abdominal wounds explored down to, but not through, the parietal peritoneum. Lesions of the

scalp can also be treated Operations upon the face and neck, where scars are objectionable, and where accurate apposition of the edges requires more time than cocaine anesthesia will insure, can often be better done under general anesthesia. However, moles, warts, naevi, scars, impacted bodies, etc., can be removed with cocaine.

In the surgery of the eye, cocaine enjoys a wide range of applicability, one or two drops in the conjunctival sac, repeated every minute for from two to five minutes, allows extraction of foreign bodies, applications to the conjunctiva and cornea, removal of pterygium, pinguecula, polypus, lithiasis, incision, scraping or cauterization of ulcers of the cornea, sections of the cornea, and sclero-cornea for cataracts, including all kindred operations. Squint and minor operations upon the lids and lachrymal apparatus can also be performed under cocaine anesthesia.

Diseases of the buccal cavity, such as tumors, one-half to one inch in diameter, cysts of the lips, chronic fissures or ulcers, adhesions, etc., may be treated under cocaine. Small epitheliomata, or suspicious ulcers, are made insensible by injecting 5-20 minims of a four per cent. solution beneath and around their base. Small ranulæ, and complete cleft of the small palate, can also be operated upon painlessly in this way.

In laryngeal, nasal and naso-pharyngeal surgery, cocaine is widely used every day.

In the surgery of the genito-urinary organs, cocaine has found a field of great usefulness. The method of use prescribed by the writer is as follows, viz. :

> After disinfection of the male urethra with boracic acid solution (gr. x.—℥i) from one to two drachms of a four per cent. cocaine solution are injected by the ordinary P syringe. The canal should be fairly distended by grasping the meatus with the thumb and finger, closing it so that the mucous membrane may be brought in contact at all points with the solution.

The excess is allowed to escape. If the membranous urethra be the seat of operation, a deep injection of twenty to thirty minims must be made. Over-distension is to be avoided, else the wound may gape and the solution be forced into the circulation. Not over a drachm should be first injected. One to two minutes secures anesthesia, examination is made, and the excess of cocaine solution washed out with a solution of boracic acid.

The author finds cocaine likewise useful in operations for circumcision in adults, hydrocele, hemorrhoids, single and superficial fistulæ, and ends by expressing his belief that "cocaine surgery has not yet received its deserved appreciation." J. P.

THE English courts have lately decided that in a case "where a wound is given, which, in the opinion of competent medical advisers, is dangerous, and the treatment which they adopt is the immediate cause of death, the party who inflicted the wound is criminally responsible." This decision was reached in a case in which it was sought to shift the responsibility from the persons who inflicted the wound, upon the doctors, who sought to save the man's life. Thus the surgeon is free from more than ordinary responsibility in treating such cases. As a result, he will be inclined to undertake operations that otherwise he would not, and so give the accused a better chance of avoiding the charge of murder.—*Maryland Medical Journal.*

EXCERPTS.

By JOHN A. MILLER, Ph. D., M. D., of Niagara and Cornell Universities.

INFLUENCE OF SACCHARIN ON DIGESTION—BY STIFT (*Bied. Centr.*, xviii., p. 458).

It is well known that saccharin is not capable of being digested, that it passes unchanged through the organism. In experiments made by the author on himself, in which 46.2 grains of saccharin a day was taken, a slight *purgative* action was observed, followed by a loss of appetite. In order to ascertain what action, if any, saccharin had upon the digestive ferments, experiments were made with meat, egg-albumin, casein, and pea-meal, with and without the addition of saccharin. From these experiments the author ascertained that the presence of saccharin delayed the solution of the albuminoids, which was not complete after twelve hours contact with the gastric juice. The greater the amount of saccharin present, the more marked was its action. Similar results were obtained with diastase and with pancreatic ferment. Saccharin, therefore, interferes with digestion, and must be considered injurious to health.

ACTION OF CARBOHYDRATES ON THE ANIMAL ORGANS—BY P. ALBERTONI (*Chem. Centr.*, 1889, page 608).

Experiments which were made on man and on lower animals to determine the action of glucose, maltose and saccharose on the animal economy, showed that their absorption into the blood is attended with an increased action of the pulse. In the dog the increase being from 15-20 beats per minute, and in man from 6-8 beats per minute. The pressure of the blood is also increased by about 15-20 m. m. of mercury, and an increased action of the heart being also observed. The blood-vessels are enlarged, and an increased quantity of blood, almost

double the normal, flows from them. The rate of circulation is also much increased. Morphine and chloral prevent the action of the carbohydrates on the circulation.

From these experiments the author draws the conclusion that the carbohydrates are not to be regarded as a food proper, but that they have an important effect on the action of the heart. [Whether or not the carbohydrates are to be considered as foods, depends entirely upon our definition of that term. If foods are only such substances as can replace body waste, or can be used in building up the tissue of the body, then carbohydrates can hardly be called foods. We must not forget, however, that there are other elements, fully as important as the replacing of broken-down tissue, to be considered in the study of vital phenomena. For example, the temperature of the body is as important as the building up of tissue, and each must be considered in its proper place when studying the foods in their relation to the animal economy. The increased rate of circulation, which means an increase in temperature to at least a slight degree, as well as the number of caloric units evolved during the combustion of the carbohydrates, are simply means of sustaining the proper temperature of the body.—J. A. M.]

Ptomaines in Cystinuria—By L. v. Udránszky and E. Baumann (*Ziet. Physiol. Chem.*, xiii., p. 562).

The authors submitted the urine of a patient suffering with cystin calculi, to an examination for the purpose of determining whether or not ptomaines were present. They succeeded in isolating the diamines (ptomaines), cadaverine ($C_5H_{14}N_2$), and putrescine ($C_4H_{12}N_2$). Of these two alkaloidal substances, cadaverine was the more abundant. The quantity per day varied very much; on one occasion 3.19 grains of cadaverine and 1.69 grains of putrescine, while on another occasion only the merest traces were obtained.

The diamines are absent both in normal urine and feces, and also in cases of acute and chronic cystitis, as well as in the urine of patients suffering from scarlatina, diphtheria, typhoid pneumonia, peritonitis, and other suppurative processes.

In the two cases of cystinuria, reported by Brieger and Stadthagen, both cadaverine and putrescine were present in the urine.

The investigations of Brieger show that diamines are formed in certain putrefactive process, especially in cultivations of cholera-bacillus and the Finkler-Prior vibrio.

There is one circumstance, then, which cholera and cystinuria have in common,—the formation of diamines; and there is but little doubt that in both cases they are formed by the agency of microörganisms.

In the case under investigation, the authors not only found diamines present in the urine, but succeeded in isolating cadaverine and putrescine from the feces of the patient; putrescine being the more abundant of the two.

Should later investigations show that these diamines are a constant formation in the alimentary canal of patients suffering from cystinuria, the ultimate conclusion must needs be that cystinuria is an infectious disease. The microörganisms, however, which are present, would differ from most pathogenic bacteria in their prolonged existence in the same individual.

[According to the observations of Grawitz, cadaverine seems to hinder the growth of bacteria. This fact, if true, might account for their long existence as mentioned.—J. A. M.]

Relation of Ptomaines to Infectious Fevers—By A. P. Luff (*Brit. Med. Jour.*, 2, 1889, p. 193).

The author simply reports one case of typhoid fever and several cases of scarlet fever, in which small quantities of alkaloids of a doubtful nature were obtained from the urine of these patients.

Proteid Poisons—By S. Martin (*Brit. Med. Jour.*, 1889).

The author investigated jequirity (Abrus precatorious) a substance employed in ophthalmic surgery to produce inflammation of the conjunctiva. He found that the poisonous properties of this plant lay in the two proteids which it contains.

These two proteids both produce nearly the same effects, *i. e.*, local edema and ecchymosis at the seat of inoculation, with ecchymoses in the serous membranes, and gastro-enteritis, the blood in many cases remaining fluid. There is a gradual sleepiness, which ends in coma, followed after death by a rapid onset of rigor mortis. Both proteids have a remarkable lowering effect on the body temperature. Temperatures above eighty degrees destroy their activity.

The Astley Cooper Prize, amounting to $1,500, will be awarded in 1892. The question proposed is, The Influence of Microörganisms upon Inflammation. The papers must be written in English, or accompanied by an English translation, and should be addressed before January 1, 1892, to Guy's Hospital, London. The prize will not be awarded to two or three working conjointly.—*Times and Register.*

BUFFALO MEDICAL AND SURGICAL JOURNAL
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Editorial.

THE NEUROPATHIC ORIGIN OF EDEMA.

SINCE Ranvier's classical experiment on the production of edema, the nervous origin has been undisputed. It will be remembered that he tied the inferior femoral vein, yet edema did not result; but on dividing the sciatic nerve, edema appeared throughout the area of its distribution. These experiments have been repeated by various observers, with identical results. Vulpian believed this to be due to trophic changes in the walls of the vessels. Then Lewaschew made experiments in proof of this theory. He operated on adult dogs. The naked sciatic nerve was exposed, as near as possible to its exit from the pelvis. On one side, he passed through the nerve-trunk a thread saturated with a solution of sodium chloride, so as to produce a more or less acute inflammation. After a short time, he found a corresponding spot, hot and tumefied. After killing the animal, he examined the arteries in the healthy paw, and also in the paw on the operated side.

The large arteries toward the thigh presented nothing appreciable, but in the arteries toward the extremity he found, here and there, spots more or less profoundly inflamed, characterized by a turgescence of the vasa vasorum, and the existence of lymphoidal elements in the external and middle tunic. In some cases the internal tunic shared in the inflammatory proliferation, thus showing endarteritis to be developed more and more as we approach the periphery, where, be it remembered, the vaso-motor action is at its maximum.

We have seen, in practice, similar edemas as the result of nerve wounds.

Weir Mitchell called attention to this, in 1864, in his report on gunshot wounds and other injuries of nerves. He classed these edemas with the other trophic change described by Paget under the name of glossy skin.

In our own practice, we have recently seen edema of the arm in a case of brachial neuralgia, due, probably, to neuritis. As the pain subsided, the edema disappeared.

These edemas may subside and reappear as the nerve lesion is improved or is newly aggravated.

Matthew and Weil, in a joint paper, described three forms which the edema presents:

In one case it is found to be white, soft, and easily depressed, and not painful. Again, it may be hard, sensitive on pressure, and gives a sensation of tension."

In a third class of cases—

The swelling is accompanied by a feeling of smarting, lancinating against the sides in the diseased parts. The skin is hot, shining, and tender, and varies in color from a bright rose-tint to a sombre red. This form, from its clinical history we have named pseudo-phlegmonous.

As we find edema dependent on peripheral nerve lesions, so we find edema due to disease of the cerebro-spinal axis.

This is frequently seen in paralysed limbs after hemiplegia, and in acute myelitis. Vulpian described it as appearing in epidemic cerebro-spinal meningitis. We ourselves have seen it in infantile paralysis. This edema is by no means dependent upon the paralysis, although it frequently accompanies it. In cases of tabes, edema has been observed to appear where there was no paralysis, but when there was a crisis of pain.

We have called attention to this subject, as it is one of great importance and, unfortunately, but little noted.

INTESTINAL ANASTOMOSIS WITH SEGMENTED RUBBER RINGS.

At the recent meeting of the Southern Surgical and Gynecological Association, at Nashville, Dr. A. V. L. Brokaw, of St. Louis, Mo., read a paper entitled "Intestinal Anastomosic Operations with Segmented Rubber Rings, with some Practical Suggestions as to their Use in other Surgical Procedures." The paper considered in detail the results obtained in an experimental study of all the anastomotic operations, and an original technique and application of segmented rubber rings in such operations as gastrotomy, duodeno-cholecystotomy, jejuno-cholecystotomy, ileo-colostomy, and circular-enterorrhaphy. Reference at length was made to the author's success in closing very large wounds of the intestines by the use of a single segmented rubber ring, formed of eight sections of tubing. The ring, being introduced into the intestines, is bent evenly upon itself, and the apposition threads being tied, perfect, safe closure of the very largest wound is

accomplished without stenosis following. The ring devised by the author, is very simply constructed by passing a doubled strand of catgut continuously through from four to eight short sections of rubber drainage-tubing, of a diameter from one-sixteenth to one-fourth of an inch. To the catgut within the rubber sections are tied the apposition threads. The segmented rubber rings are applied in the anastomotic operations in the same manner as Senn proposed, in the use of his bone plates. The advantage of segmented rubber rings over other procedures and devices, is the rapidity with which they may be made, during an operation if need be. In the absence of proper tubing, pieces of catheter could be substituted. For the closure of small wounds in the intestines, a new suture was proposed. Short rods of decalcified bone, one-sixteenth of an inch in thickness, and one-fourth of an inch in width, are perforated at points less than half an inch apart for the passage of the apposition threads, which are attached in this manner: a strand of chromacized catgut, or well-prepared juniper catgut, is doubled and a single knot made in the middle of this doubled cat-gut strand (silk may be used if preferred), the loop and end threads are passed through the small openings made in the decalcified bone-rods. Each thread and loop is threaded to separate needles, the rods introduced in the wound in the bowel, the needles passed from within outward less than a quarter of an inch from the wound margins, and the loops and single threads tied in pairs. For this method was claimed accurate, rapid, and safe closure of small wounds of the intestines. The author preferred a segmented rubber ring in the closure of large wounds.

A description of two new wholly absorbable apposition rings was given, which had experimentally shown excellent results. One was formed by decalcifying the long bones of chickens and young animals, the process of decalcifying being the same as for making bone drainage-tubes. With short sections of bone so prepared, and a double strand of catgut, the rings were made in a manner similar to the described segmented rubber rings. The second wholly absorbable ring was made of short sections of the arteries of large animals. After dissecting the arteries up from their sheaths, they are cut in short segments, boiled five minutes, then into the lumen of each section is pushed a glass rod, and they are then immersed in alcohol for a few days. When the rods are withdrawn, the hardened artery tubes are ready for use. With four to eight short sections of arteries so prepared, approximation rings are easily made by passing a double catgut strand continuously through the lumen, as described previously. These rings serve their purpose admirably, are very easily made, give a good-sized aperture, and are entirely absorbed in a few days. Experiments were made upon over fifty dogs by the above methods.

THE HEALTH PHYSICIAN.

NEXT month it will be the duty of the Board of Health to appoint the Health Physician of this city for the ensuing year. Without disparagement to any other worthy candidate, we favor the reappointment of Dr. Edward Clark, the present incumbent, because we believe he has shown himself thoroughly competent not only to fulfil the ordinary requirements of the office, but to rise equal to great emergencies and subdue impending epidemics. We have only to remind the profession, and the citizens generally, of the threatened small-pox invasion in the Summer of 1888, which was prevented from being a serious calamity to the city through the energetic and capable management of Dr. Clark. He devoted himself, day and night, to the task of limiting the outbreak to the quarter of the city where it first appeared, and was so successful that, notwithstanding the alarm felt at such times, we are assured that no business interest suffered in the least, and the great International Fair was able to be opened at the appointed time. Much more could be said on this subject, especially in regard to the slight cost to the city, as compared with what other cities have had to expend on similar occasions; but the events are of such recent occurrence it does not seem necessary.

Dr. Clark has also interested the authorities in the effort to obtain a pure food supply, or rather to prevent diseased products from being sold as food, and has thus inaugurated an important work. We believe that public officers who prove themselves capable should be retained in the public service as long as they can be, and we trust the Board of Health will appreciate the importance of applying this principle to the office in question.

HIGHWAY IMPROVEMENTS.

A MOVEMENT for improving and maintaining better roads throughout the country is beginning to attract considerable attention. While all kinds of business would be increased by good roads, perhaps no class of people can have more interest in this subject than the doctors —unless it should be the doctors' patients. For whatever contributes to assist the doctor in responding with rapidity to the summons of his patients, redounds to their welfare as well as to the health of the community.

The city doctor, especially in Buffalo, has little cause of complaint, but a short ride out of the city, in any direction at the present time, would convince anyone, we think, of the absolute necessity of reform in regard to the building of roads. Very often it is impossible to drive a horse faster than a walk with any hope of getting

home with a sound buggy, to say nothing of a whole body. Our country roads, in all but the best summer weather, are so notoriously bad that any attempt to improve them should receive the encouragement of every citizen. The plan seems to be to have uniform laws on the construction and repair and maintenance of all roads within the State, and to this end we understand the attention of the Legislature will be invited during the coming Winter. It is also proposed to bring the matter before Congress with the idea of establishing Inter-State Highways. We trust the influence of all physicians will be exerted on the side of reform, and that they will seek to interest their local representatives in this subject. We have recently received a copy of an address by Col. Albert A. Pope, of Boston, delivered before the Carriage Builders' National Association, at Syracuse, October 17, 1889, calling attention to the importance of highway improvement. Col. Pope also delivered another address on the same subject before the Board of Trade of Syracuse on November 20, 1889. Copies of these addresses can be easily obtained, and they will be found to present much valuable information. If the civilization of a nation is correctly judged by the character of its roads, it behooves this country to bestir itself, for, at present, as Col. Pope says, "The American roads are far below the average; they are certainly among the worst in the civilized world."

Ourselves as Others See Us.—The Buffalo Medical and Surgical Journal has just begun its twenty-ninth volume, and has combined with or absorbed the *Medical Press of Western New York*, published in this city. The Buffalo Medical and Surgical Journal has been enlarged, and, since its present editors assumed charge of its affairs, improved in every way, and is now one of the leading medical journals in the country.—*Dental Advertiser*, (Buffalo,) Oct., 1889.

Society Meetings.

The Southern Surgical and Gynecological Association held a most interesting and instructive meeting at Nashville, Tenn., November 12, 13, and 14, 1889. The attendance was large and the papers, for the most part, were of a high order of merit. To have organized and put in active working order so useful a medical body in so short a time, reflects great credit upon its founders, and no one is entitled to greater praise than its accomplished and indefatigable

Secretary, Dr. W. E. B. Davis, of Birmingham, Ala. The great glory of Dr. Hunter McGuire, of Richmond, Va., a man already accustomed to the plaudits of his professional brethren, is that he was chosen to preside at this second annual meeting of this famous association, where, under his experienced and able guidance, so much good work was done. It will be no easy matter even for this young, vigorous, and progressive Association to improve upon its Nashville meeting; though it may be predicted that the next year at Atlanta, under the presidency of Dr. George J. Englemann, of St. Louis, a notable meeting will be held.

THE twenty-second semi-annual meeting of the Medical Association of Central New York was held at Syracuse, N. Y., Tuesday, November 19, 1889. Among the Buffalo members present were Dr. A. A. Hubbell, Dr. Roswell Park, and Dr. C. C. Frederick. Dr. Hubbell read a paper on Optic Neuritis, and Dr. Park on Drainage in Surgery. Dr. Edward B. Angell,* a former associate editor of the JOURNAL, acted as secretary.

Medical College Notes.

AT A recent meeting of the Faculty of Niagara University Medical College, Dr. William C. Krauss was elected Lecturer on Pathology. Dr. Krauss is well fitted for the work assigned him, having recently returned from the laboratories of the Old World, where he enjoyed the teachings of men like Virchow, Bollinger, Mendel, Gombault, etc. His contributions to Pathology, and more especially to Neuropathology, during the past few years, show him to be an earnest and enthusiastic worker. Dr. Krauss limits his practice in this city to the diseases of the nervous system.

MR. HENRY K. JESSEL, assistant to Professor Pitt, in the Department of Natural Sciences, at the Buffalo High School, has been elected Assistant in General Chemistry and Physics in the Medical Department of Niagara University. Mr. Jessel is a graduate of Cornell University in the class of 1889, and brings to his new duties the earnestness and energy of youth, combined with fine scholarship and an aptitude for teaching, which gives assurance of success in his new field of labor.

Obituary.

Dr. Thomas J. King, a prominent physician of the "Southern Tier," died at his home in Machias, Cattaraugus county, N. Y., Tuesday night, November 5, 1889, aged 64 years. Dr. King occupied an enviable position in the community in which he lived and practised, was respected by his friends and neighbors as a man of worth, enjoyed the confidence of a large clientele, and stood high among his professional compeers as an able physician. His funeral was attended by a large concourse of people, who thus testified their affection for his memory, and appropriate memorials were adopted by the several professional and civic bodies of which he was a valued member.

Dr. Isaac E. Taylor, of New York, died suddenly of pericarditis, at his home, October 30, 1889. Dr. Taylor has been prominent in medical circles for more than thirty years, and his death is lamented by an extensive professional and lay acquaintance, besides immediate relations and personal friends.

Personal.

Dr. Jacob Goldberg announces that he will hereafter limit his practice to diseases of the eye and ear. He has spent some time with Drs. Knapp and Moore, in New York, preparing himself for his chosen specialty, and may be consulted at 145 Cedar street.

Surgeon William S. Tremaine, U. S. A., has been relieved from temporary duty at Fort Leavenworth, Kan., and ordered to return to his home in this city.

Assistant Surgeon Louis M. Maus, U. S. A., has been relieved from duty at Fort Porter, in this city, and ordered to Fort Stanton, New Mexico.

Assistant Surgeon Edwin F. Gardner, U. S. A., is relieved from duty at Fort Lewis, Col., and ordered to duty at Fort Porter, Buffalo, N. Y.

Dr. Bache McE. Emmet and Dr. Horace T. Hanks have been appointed Surgeons to the Woman's Hospital of the State of New York, the first to succeed Dr. James B. Hunter, deceased, and the second in place of Dr. C. C. Lee, resigned.

Book Reviews.

A Text-Book of Animal Physiology. With an introductory chapter on General Biology, and a Full Treatment of Reproduction. For students of human and comparative (veterinary) medicine, and of general biology. By WESLEY MILLS, M. A., M. D., L. R. C. P. (Eng.); Professor of Physiology in McGill University, and the Veterinary College, Montreal. With over 500 illustrations. 8vo, pp. xxii, 700. New York: D. Appleton & Co. 1889.

This work marks a distinct advance in the method of teaching the subject of physiology, and we trust it will be followed by all the progressive teachers in that department. Together with the author, we retain a vivid remembrance of how, during our student days, we were filled with facts and details of technical physiological experiments, until we lost sight almost entirely of the important truths these experiments were intended to illustrate and explain. By the plan of Dr. Mills, the principles of the science of physiology are always kept before the student, and continually reappear in all parts of the book. Technical details are made subordinate to the effort to make clear the laws governing all the phenomena of life. The author's object is finely stated in the opening words of the work:

> The comparative method, the introduction of the teaching of embryology and of the welding principles of evolution, as part of the essential structure of zoölogy, may be said to have completely revolutionized that science; and there is scarcely a text-book treating of that science, however elementary, which has not been moulded in accordance with these guiding lines of thought. So far as I am aware, this cannot be said of a single book on the subject of physiology. Feeling, therefore, that the time had come for the appearance of a work which should attempt to do, in some degree, at least, for physiology what has been so well done for morphology, the present task was undertaken.

How well this attempt has succeeded will be apparent to every one upon an examination of the work.

The task the author set himself was not a simple one, and necessitated, among other things, an entire change in the plan of the book, as compared with all other works on the subject. In the first place, there are no chapters, though the general divisions are headed with larger type, indicating the subject-matter following. Concerning this, Dr. Mills says that observation has taught him that the arrangement into chapters, often gives the student the idea that each function of the body is discharged very much independently; he, therefore, has made a persistent effort throughout the work to impress upon the student the absolute dependence of all parts. In this he has succeeded admirably.

Again, the book has not been overcrowded with elaborate methods of investigation. Enough, however, has been given to show their

importance, and to enable each one "to verify the essential truths of physiology," by the more simple and direct methods.

At the end of each subject, a summary is presented, giving in a few concise words what has preceded. This is especially valuable, not only to students, but to all who may consult the work to refresh their physiological knowledge. The subject of Reproduction appears early in the book, instead at the very last, as in most others. The author gives his reasons for this as follows :

> An attempt has been made to use embryological facts to throw light upon the different functions of the body, and especially their relations and interdependence. It, therefore, became necessary to treat this subject early. It is expected, however, that the student will return to it after reading the remaining chapters of this work.

Anothor important feature is the introduction of clinical and pathological facts. This accomplishes two purposes: it serves to teach and impress proper physiology, by showing what the departure therefrom produces; and it illustrates the bearing physiology has upon practical medicine, and is a direct proof of its importance.

Other features to which the author alludes might be mentioned here, but enough has been said to show the general plan of the work. Let us now consider a part of the book in detail—we have not space for a complete analysis—in order to indicate the thoroughness with which Dr. Mills has done his work.

We first have some remarks under the head of General Biology, giving the student some general laws in regard to the nature of all living things. The Cell is then considered, because all living things, whether great or small, are made up of cells. This leads to a description of the simplest forms of life, as illustrated in the unicellular plants, examples of which are the yeast plant and the protococcus. Unicellular animals naturally come next, and we begin to observe a somewhat higher form of life. Examples of these are the amoeba, the parasite organisms, and the bacteria. Animals of a single cell, but with a differentiation in structure, follow, and then we have the multicellular organisms. After which the cell is reconsidered, and its properties discussed, as we have seen them under the previous heads, and some general conclusions are drawn as to the nature of protoplasm, the principal constituent of the cell.

The fact that no two masses of protoplasm are exactly alike, and that there is a physiological division of labor, is shown in the study of the animal body, its construction, and its needs. That one part is functionally dependent upon another is also very beautifully shown. Dr. Mills then presents the difference between living and lifeless matter, taking as his illustration the old comparison between the modern

watch and a living organism. We have never seen this more graphically done. After reading it, the student will never forget the fundamental differences existing in matter that is living and matter that is lifeless.

In regard to the classification of the animal kingdom, the author gives that of Claus, but says truly that all classifications are more or less artificial, and, therefore, unsatisfactory. Nevertheless, they serve a useful purpose in helping to simplify knowledge, and cannot be entirely disregarded.

The next divisions are of especial interest. They discuss Man's Place in the Animal Kingdom, and certain general laws governing the manifestations of living matter—such, for instance, as the law of periodicity, or rythm, and the law of habit. We believe that Mr. Herbert Spencer was one of the first to call attention to the law of rythm, and the beauty of the chapter entitled The Rythm of Motion, found in his First Principles, will be recalled by all. We have looked through several works upon Physiology, and can find scarcely a reference to the law. They seem to think it would be out of place in a text-book, for, of course, the authors were not ignorant of it. It is their method, not themselves, that is at fault. So with the laws of habit as well as some others. Dr. Mills deserves the thanks of all students in thus teaching them to know and appreciate the general forces at work, that go to make up the complex phenomena of living things. We trust his effort in this direction will not be in vain.

The next division considers the Origin of the Forms of Life, in which the doctrine of evolution is carefully studied. The argument is arranged under the following heads: Morphology, Embryology, Mimicry, Rudimentary Organs, Geographical Distribution, Paleontology, Fossil and Existing Species, Progression, and Domesticated Animals. The summary of this part says:

> Every group of animals and plants tends to increase in numbers in a geometrical progression, and must, if unchecked, overrun the earth. Every variety of animals and plants imparts to its offspring a general resemblance to itself, but with minute variations from the original. The variations of offspring may be in any direction, and, by accumulation, constitute fixed differences, by which a new group is marked off. In the determination of the variations that persist, the law of the survival of the fittest operates.

This leads directly to the study of Reproduction, which comes next. Its introduction thus early in the work has already been referred to. It occupies seventy-six pages of the book, and is presented in such a way as to attract the student. This is a great gain, for usually it does not receive from them the proper attention.

Then occur divisions with the following titles: Organic Evolution Reconsidered; Chemical Constitution of the Animal Body; Physiological Research and Physiological Reasoning; and we come to the study of the Blood, where most works upon physiology begin.

It is unnecessary to follow the author further. We have seen how radical is the difference between this and the ordinary text-book, and enough has been said also to show its superiority. In a general way, we will say that the rest of the work exhibits the same careful statement, the same comprehensive grasp, the same simple direct way of putting things, and the same beauty of expression as the part already considered. It is a work redounding to the credit of the author, and of great importance to the student.

A word should be said as to the appearance of this book. The publishers seem to have spared nothing to give it a fitting form. The printing, binding, and paper are of the highest order. There are over 500 illustrations of great utility and of fine execution. Some of them are old, familiar friends, but many of them are new and original. Their abundance and their excellence will assist materially in giving a clear understanding of what is now known of physiology. We end with the wish already expressed, that Dr. Mills's work and method will be followed by all progressive teachers, and that all students will be given the benefit of his comprehensive and delightful book. F. H. P.

Wood's Medical and Surgical Monographs. Volume IV., No. 2. November, 1889. Published monthly. $10 a year; single copies, $1.

The contents of the current number of this useful series embrace the following titles: On the Surgery of the Knee-Joint, by C. B. Keetley, F. R. C. S.; Aids to Ophthalmic Medicine and Surgery, by Jonathan Hutchison, Jr.; and Bacteriological Technology for Physicians, by Dr. C. J. Salomonsen.

The surgery of the knee-joint, keeping pace with the advances all along the line, has improved to a corresponding degree with that of the other regions of the body. Mr. Keetley is competent authority to speak on this subject, and does so in no uncertain way. He is, moreover, an attractive writer, and forcibly illustrates his points in well-chosen sentences, alluding to the improved surgery of the abdominal cavity and the brain, to illustrate the fact that modern surgery can accomplish marvels, while, in the same breath, he draws the line at miracles.

He quotes from Greig Smith the following, which seems to have an especial force and meaning just now, in view of a recent celebrated

case, in which all the modern teachings were grossly violated. Says the distinguished Bristol surgeon:

> At once, or within a few hours, we ought to make a definite diagnosis. If we are convinced that it is acute obstruction, then operation should be performed at once; if we are convinced that it is not, another treatment equally definite ought to be pursued. From the beginning, a definite plan of treatment ought to be laid down, and this plan ought to be adhered to. Let it be either drugs or operation, and *never* that *fatal compromise*—operation when drugs fail.

Mr. Jonathan Hutchison, Jr., has, in his Aids to Ophthalmic Medicine and Surgery, which comprises the second part of this number, rendered a valuable service to physicians in placing before them, in a concise manner, certain features of the ophthalmic specialty that should be understood by every practitioner. The chapter on Injuries of the Eye is to be especially commended in this regard.

Bacteriological Technology for Physicians, is the title of Dr. Salomonsen's monograph, which is illustrated with seventy-two figures in the text. The time has arrived when every medical practitioner must know something about bacteriology, and we know of no source whence so much practical information can be derived with so little outlay of time and money as in the study of Dr. Salomonsen's treatise. The relations of microörganism to disease must now be understood, and in order to obtain correct knowledge on this subject, the various kinds of bacteria must be separated and cultivated. Here is the place for the busy practitioner to get the information he must needs have.

Original Investigations of Cattle Diseases in Nebraska. 1886–1888. By FRANK S. BILLINGS, Director of the Patho-Biological Laboratory of the State of Nebraska. Bulletins 7, 8, 9, and 10. Lincoln, Neb. 1889. State Journal Co., Printers.

In a beautiful volume of 267 pages are published the original observations of Dr. Billings on the Diseases of Cattle in Nebraska. This work is volume third of Dr. Billings's investigations, and shows the author to be a careful and painstaking observer.

The patho-biological laboratory of the University of Nebraska was one of the first of its kind to be established in the United States, and from the character of the work which has gone from its walls, it is safe to infer that it has met, if not surpassed, all expectations. All credit is due Dr. Billings, as director of this laboratory, for the excellent work in veterinary and human pathology, which has from time to time appeared in the "Bulletins of the Agricultural Experimental Station of Nebraska." This work has not been so much in the line of confirmatory evidence, in support of theories and facts furnished by other observers, as to take lead in the discovery of facts and creation of theories.

The Southern cattle-plague, or Texas fever, is taken up at some length in this volume, and the bacteriology and pathology of this and yellow fever are carefully studied and compared. The author considers both as extra-organismal infectious septicemia, with a remarkable association of analogies, yet does not consider the two diseases identical.

Article II. treats of "The Corn-Stalk Disease in Cattle." This paper appeared in the July, August and September (1889) numbers of this JOURNAL.

Article III. discusses the history and peculiarities of a new malady, the "So-called Hydroplotra in Cattle," which broke out in some parts of Nebraska in 1886 and 1889. The exact nature of the disease remains unknown.

Article IV. treats of Contagious Inflammation of the Cornea in Cattle. This paper appeared in the April (1889) number of this JOURNAL.

Article V. describes briefly a "Singular Disease of the External Sexual Organs in Cows."

This volume is from the press of the State Journal Co., Lincoln, Neb., and is an excellent specimen of press-work. W. C. K.

A Reference Hand-Book of the Medical Sciences, embracing the entire range of Scientific and Practical Medicine and Allied Science. By various writers. Illustrated by chromo-lithographs and fine wood engravings. Edited by ALFRED H. BUCK, M. D. Volume VIII. Containing an appendix (523 pp.) and a general index (197 3-column pp.) New York: William Wood & Co.

This volume of the Reference Handbook of the Medical Sciences completes this extensive and valuable work. In examining the eight volumes, of which the series is composed, we are frank to state that, in the variety of subjects selected and in the ability of the writers, the handbook presents a compendium which will constitute an excellent library for the general practitioner, and an extensive reference book for the student. Great credit is due to the accomplished editor for the able manner in which he has performed his duty, and the zeal and enterprise of the publishers are demonstrated in the paper and typography, and also in engravings, etc., with which the volumes are embellished.

The eighth volume is, for the most part, taken up with the appendix and index. The appendix has enabled the editor to supplement the subjects, arranged in alphabetical order, with important and valuable monographs, which makes the work all the more complete.

For the purpose named in the title, we regard this work one of the most important issued by Messrs. Wood & Co. It is just the

series for the practitioner, affording him, in a condensed form, much instructive matter which, in the ordinary medical library, he does not possess.

A Surgical Hand-Book for the Use of Practitioners and Students. By FRANCIS M. CAIRD, M. B., F. R. C. S. (Ed.), and CHARLES W. CATHCART, M. B., F. R. C. S. (Eng. and Ed.), Assistant Surgeons, Royal Infirmary, Edinburgh, with very numerous illustrations, 12mo, pp. xv., 262. Price, $2.50. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1889.

A surprising amount of information is contained within the covers of this little hand-book. The authors begin by showing the reader how to record surgical cases. Then the treatment of patients before and after operation is considered, and many sound practical hints are to be found under this head. The chapter on anesthetics, local and general, is good. The same can be said for the succeeding chapters, which include such subjects as Antiseptics and Wound Treatment, Arrest of Hemorrhage, Emergency Cases, Minor Surgical Operations, Bandaging, Fractures, Joint Troubles, and so on. Massage and electricity are well considered. The chapter on plaster-casting is a most useful one. The book ends with an appendix, in which one finds terse and complete information concerning the microscopical examinations of secretions and discharges, lists of instruments and appliances required in various operations, other practical hints and suggestions, and various formulæ useful in surgical practice. We have nothing but praise for this little work. Symptomatology, diagnosis, and the dangers arising under certain conditions, are given in a way sure to be remembered.

The publishers have done their work well. Type and illustrations are clear, and if worth be the criterion the price is a fair one.

J. P.

A Manual of Obstetrics. By A. F. A. KING, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children, in the Medical Department of the Columbian University, Washington, D. C., and in the University of Vermont, etc., with 141 illustrations. Fourth edition. Philadelphia: Lea Brothers & Co. 1889.

The fourth edition of this valuable little work on Obstetrics, from the pen of Professor King, following so soon after the previous edition, shows the appreciation of the profession and of medical students for a condensed and concise treatise on the rudiments and essentials of obstetric science. The busy practitioner and the overworked student have not the leisure to wade through the more elaborate works, and they find in this compendium all that is essential for their needs. The present edition presents an increase in the number of pages and of

illustrations. Two new chapters have been added on the subjects of intercurrent diseases of pregnancy and the resuscitation of still-born children. In other respects, also the work contains the latest improvements and advances in this special department of medicine.

We have taken occasion to recommend the work to our students because of its brief, concise and accurate presentation of the principles of the science, and also for the reason of its economy in cost, the latter being an important matter with many medical students.

The Story of Bacteria and their Relation to Health and Disease. By T. MITCHELL PRUDDEN, M. D. New York and London: G. P. Putnam Sons. 1889.

In a neat little volume of 143 pages, the author gives a short history of Bacteria, their mode of development, and the diseases they produce. It is intended especially for the lay reader, enabling him to form some conception of the modern views of disease and their causative agents. The several chapters are clearly and intelligently written with avoidance of all technical terms, and can be recommended to the unscientific as both useful and interesting. Some points dealing with the prophylaxis of certain infectious and contagious affections, go to make the book of considerable value to those ignorant of the laws of disease.

The press-work is nicely and cleanly done, and is creditable to the publishers. W. C. K.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Diseases of the Nose and Throat, in two volumes. By Francke Huntington Bosworth, A. M., M. D. Volume I., Diseases of the Nose and Naso-Pharynx. New York: William Wood & Co. 1889. Price, cloth, $6.

A Text-Book of Practical Medicine. By Alfred L. Loomis, M. D., LL. D. Eighth edition. Revised and enlarged, with 215 illustrations. New York: William Wood & Co. 1889.

Hygiea Medicinsk och Farmacevtisk Manadsskrift utgifven af Svenska Läkaresällskapet. Festband Med Aledning af Tidskriftens Femtioariga Tillvaro. Stockholm: Samson & Wallin. 1889.

Massachusetts Institute of Technology. Abstract of the Proceedings of the Society of Arts, for the years from 1879–'80 to 1888–'89. Boston.

The Genu-Pectoral of Knee-Elbow Position in Obstetrics. By W. H. Wenning, M. D., Cincinnati. Reprint from Cincinnati *Lancet-Clinic*, October 12, 1889.

Ankle Injury. By J. T. Woods, M. D., Toledo, O. From Transactions Ohio State Medical Society. 1889.

Concealed Pregnancy—Its Relations to Abdominal Surgery. By Albert Vander Veer, M. D., Ph. D., of Albany, N. Y. Reprint from the *Journal of the American Medical Association*, October 19, 1889. Chicago.

The Education of Girls, from a Medical Standpoint. By Edward W. Jenks, M. D., LL. D. Reprint from Transactions of Michigan State Medical Society. 1889.

Over-Strain and Under-Power of Brain. By C. H. Hughes, M. D., St. Louis, Mo. Reprint from *Alienist and Neurologist*, October, 1889.

A Plea in Favor of Early Laparatomy for Catarrhal and Ulcerative Appendicitis, with the Report of two Cases. By N. Senn, M. D., Ph. D. Reprint from the *Journal of the American Medical Association*, November 2, 1889. Chicago.

Enteralgia and Chronic Peritonitis. By A. Jacobi, M. D., New York, N. Y.

The Early Diagnosis of Extrauterine Pregnancy. By J. M. Baldy, M. D., Philadelphia, Pa. Reprint from the *Medical Record*, September 21, 1889.

Sub-Acute or Chronic Catarrhal Pneumonia. By Herbert Judd, M. D., Galesburg, Ill.

Proceedings and Addresses at a Sanitary Convention held at Otsego, Mich., May 2 and 3, 1889. Lansing: Darius D. Throp, State Printer and Binder. 1889.

Proceedings and Addresses at a Sanitary Convention held at Tecumseh, Mich., June 6 and 7, 1889.

Cornell University, College of Agriculture. Bulletin of the Agricultural Experiment Station. Horticultural Department. X. October, 1889. Tomatoes. Published by the University, Ithaca, N. Y.

United States Department of Agriculture. Bureau of Animal Industry. Report of the United States Board of Inquiry Concerning Epizootic Diseases among Swine. Published by authority of the Secretary of Agriculture. Washington: Government Printing Office. 1889.

Announcement of the Woman's Medical College of Cincinnati. Session of 1890.

Abstract of Proceedings of the Michigan State Board of Health. Regular meeting, October 8, 1889.

State Board of Health Bulletin. Nashville, Tenn., November 20, 1889.

Health in Michigan. October, 1889.

Monthly Bulletin of the New York State Board of Health. September, 1889.

Weekly Abstract of Sanitary Reports. Volume IV., Nos. 44, 45, and 46.

Literary and Other Notes.

The Johns Hopkins Hospital will issue a monthly bulletin, the first having been announced to appear in November, 1889, and nine numbers will constitute the annual issue. It will contain announcements of lecture courses, programmes of clinical and pathological study, abstracts of papers and proceedings of the medical society connected with the hospital, and reports of lectures, together with other matters of interest pertaining to the institution. The subscription price has been fixed at one dollar a year, and applications should be made to The Publication Agency of Johns Hopkins University, Baltimore, Md.

PARIS EXHIBITION.—W. R. Warner & Co. have received a silver medal at the Paris World's Fair, being the highest of its kind, in recognition of the following claims:

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A NEW JOURNAL.—Dr. I. N. Love, of St. Louis, Mo., an experienced medical writer and editor, will, we understand, soon establish a new medical journal, to be designated *The Medical Mirror*. There are not too many good medical magazines in the country, and we have a right to expect, from the reputation and experience of its editor, that the *Mirror* will take the first rank, and become a leader in the Southwest.

THE Transactions of the American Association of Obstetricians and Gynecologists, for 1889, will be ready December 15th proximo, vide the announcement of the publisher, on page xxv. of our advertising columns.

THE CREMATION OF THE DEAD.—Dr. William B. Clark, of Indianapolis, Ind., presents this subject in an article published in the Indianapolis *Sentinel* of September 22, 1889, in an interesting manner, showing the advantages of this method of disposing of the dead from a sanitary standpoint; also, with special reference to the prevention of infectious diseases, pointing out the danger of water pollution by the seepage of cemeteries, and burial places. It is well to disseminate such information through the popular medium of the newspaper press.

Buffalo Medical and Surgical Journal

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Original Communications.

A CRITICISM OF SOME RECENT UTTERANCES ON ECTOPIC GESTATION.

By LAWSON TAIT, F. R. C. S. E.,

Professor of Gynecology, Queen's College, Birmingham, Eng.

It is now nearly twelve months since I laid before the profession my completed views on this interesting subject, and I now take an opportunity of noting some of the criticisms of the work which occupied much of my time and thought for fifteen years before I published my completed conclusions.

In the first place, I have to acknowledge, with gratitude, the almost uniform acceptance of my views by American and Continental authorities; indeed, in the case of German writers, the acceptance is so complete that their British originals have been entirely absorbed into a Teutonic solidarity. American writers, on the contrary, and as is the custom in their country, have fully rendered credit where they believed credit was due, and I have nothing to give them back but the fullest acknowledgment of their generosity. Of English writers, I have, with two exceptions, to speak with as fully grateful recognition. A few criticisms have been offered of a perfectly fair kind, upon points where there is either, as yet, room for difference of opinion, or upon others where, by reason that I did not see the necessity for fuller exhibition of evidence, I did not as completely state my case as I should have done. My excuse is, that the field was a wide one and a new one; and that in it I made roads not only fresh, but leading, almost without exception, in directions wholly at variance with those previously accepted, alike in the pathology of ectopic gestation and its treatment.

The writers to whom I wish to invite attention, as exceptions most remarkable, occupy columns of the *Lancet*,—an organ of professional opinion whose good word it has never been my lot to merit, for reasons, I suppose, I shall never understand.

In its issues for the 12th and 19th of October, 1889, that journal deals with the subject of "Ectopic Gestation," in two "editorials" under the title of "Extra-uterine Gestation," and begins its discussion by a frank admission "that many alleged cases were not extra-uterine, but which were due to pregnancies occurring in a malformed uterus." The anonymous writer has not yet mastered the most indisputable conclusion of all my writing, that we ought at once to give up the term "Extra-uterine," for the very reason he gives, coupled with the other of which he is not ignorant, that the most deadly form of ectopic gestation is truly *intra-uterine*.

This is hardly the place to discuss that much-vexed question of journalism, whether articles ought to be signed or not. Most leading articles in the columns of the *Lancet*, and of other medical journals, deal with subjects more or less of a political nature; and even in medical politics there is sufficient nonsense written to make it advisable that the names of the authors should be withheld. But, as the recognized editor of the *Lancet* is not a gentleman in whose life the study of ectopic gestation can possibly have been a leading feature, it needs but scant gynecological wisdom to see that an unsigned article on such a subject in that journal, can have but little weight. The writer has such curious ideas of dealing with his subject fairly, that he makes one big jump from the confused jumble of the classification of Dezeimeris to the article of Hart and Carter; and he is so deficient in patriotism that he never even once brings in the name of the writer whose book has evidently been the cause of the articles, and whose views he has not even taken the trouble to understand. He, evidently, has taken some second-hand misrepresentation of them from the German, for he says that Kussmaul proved that "many" alleged cases were not extra-uterine, but were due to pregnancies occurring in a malformed uterus; whereas the fact is, that only two cases, in the whole literature of the subject, answer the conditions of this anonymous writer, against hundreds, if not thousands, to which the allegation does not apply.

The policy of the *Lancet* has been to ignore the existence of the British Gynecological Society, and the last editor personally assured me that this was a policy that the journal in question would continue to follow. This mistake is proving a misfortune for its writers as well as for its readers.

As a further illustration of the blundering into which such ostrich-like blindness must inevitably lead, let me quote another sentence,—another blunder involved in the use of the term "extra-uterine." "It may be briefly said," continues my critic, "that the differential diag-

nosis (between extra-uterine and cornual pregnancy, that is—the pregnancy occurring in a malformed uterus,) depends on the point of origin of the round ligament of the uterus; since this springs from the uterus, and therefore is internal to the tube, a gestation external to its origin must be tubal, internal to its origin, uterine." Now, our interstitial pregnancies (a more common form, and far more fatal than cornual pregnancy in a bifid uterus,) are both tubal and uterine; they are not extra-uterine, but most certainly *are* ectopic; so that we must conclude that our anonymous author has not understood the prime steps of the syllogism. He has read my quotation from Kussmaul and Sir William Turner, without reading (or, at least, without being able to understand,) how beautifully they fit in as bricks in my edifice; or, he has, as I said before, taken some second-hand German appropriation, instead of the original work.

This conclusion is inevitable, when a little further on he assumes that intra-peritoneal hematocele is known to occur as a thing of itself, and arising from any other cause than traumatic hemorrhage from an injured organ, such as kidney, liver, or distended broad ligament, rupture, or aneurism, or rupture of a tubal pregnancy. If it does, where are the cases? Who are the authorities?

Upon some of the questions of treatment the anonymous writer, under shelter of the editorial "we," gives expression to some opinions which are the chief reason of my referring to his article at all. "In my opinion," he says, (concerning the treatment of the case in the later months of pregnancy,) "in the face of the tremendous maternal risks, it is bad sentiment, bad morality, and bad surgery, to regard the life of the fetus for a moment." We may leave sentiment out of the question, whether good or bad, but when we come to discuss a question as one of morals, we must, at least, listen to the voice of mankind. In Europe and America we are governed by the code of morals appertaining professedly to the Christian religion. The morals of this religion, as well as its theology—though not so much—vary according to sectarian view. The oldest body, by far the largest and most influential, the only body which has deliberately discussed this question—I mean the Roman Church—has decided that the life of the fetus *must* be considered; and no other sect has formally, or even casually, discussed this question. The morals of the *Lancet* are therefore bad, I may say very bad, upon this point.

When an anonymous writer says it is bad surgery to discuss the question of the life of the fetus, I claim the right to know what authority speaks! Has he ever operated in such cases? Does he know anything about it at all? I can speak and have spoken, and the authority

of the experience with which my utterances are made is the most extensive that has yet been offered, and my conclusion is that it is safer to the mother to consider the life of the child; and no surgeon will say that the glory to his art is not greater, in any operation, to save two lives rather than one.

Even an anonymous writer in the *Lancet* might take the trouble to test the accuracy of such a statement as that "It has been proposed to cut off the cord short and close the wound; but this has not gone beyond the stage of proposal." This has been done, and would have been successful had not the operator trusted to the delusive visions of Lister. That the editor of the *Lancet* may, with advantage to his readers, make some change in his obstetric staff, is evidenced by the final and ludicrous blunder contained in the statement that "The position of the placenta in these cases may sometimes be determined by palpation, but not by the (incorrectly named) 'placental souffle,' which has nothing whatever to do with the placenta, and in all carefully observed cases has been found to be absent over its site." In the one case in my experience, where it was possible to make the observation, the only case where the existence and position of the placenta could be determined at all, it was carefully mapped out by the souffle, and it was found at the operation that my mapping out was perfectly correct.

The number of the *Lancet* in which this remarkable article appears, opens with Mr. Bland Sutton's able and pointed essay on "Intellectual Blindness," and our anonymous writer concludes by saying that "The discussion of the subject has been somewhat burning in many quarters. It is, above all things, desirable that personalities should be strictly avoided." Dr. Matthews Duncan therefore begins his own article in the *Lancet* with the remarkable sentence, that "it is only audacious ignorance that could give clear and decided teaching on the theory and practice of extra-uterine gestation;"—whatever that may mean, whatsoever the *practice* of extra-uterine gestation may be. "And," he continues, "it is clearness and decision, when they are fairly attainable, that should characterize the clinical teaching of youth."—leading to an assumption that, when he dare indulge, the great obstetric physician of St. Bartholomew's is not free from audacious ignorance.

Dr. Duncan tells us "that the theory and anatomy of it (extra-uterine gestation—I fear he will never be led to adopt the scientific nomenclature, seeing we owe it to Dr. Barnes) have made some progress, due chiefly to improved anatomical methods, especially homalographic frozen sections, and to the many laparatomies which are now performed in this disease." Dr. Duncan must know, for I happen

to be certain that he has read my book, that every fact but one of the anatomy, and abundant confirmation of my theory of ectopic pregnancy, was obtained from my abdominal sections years before the fortunate sections, obtained by Hart and Carter, established the proof in such a way that even Dr. Duncan could no longer ignore the facts. The one fact in exception was the finger-glove extension of the peritoneum retained from the fundus of the uterus. "But," says Dr. Duncan, "laparatomies do, in most cases, give imperfect information as to anatomy. Often, indeed, they mislead." Perhaps that is so in Dr. Duncan's experience; indeed, I am sure it is so, but I submit it depends upon who performs the operation. Before operations were performed by the younger generation of gynecologists for diseases of the Fallopian tubes, we listened in patient confusion to Dr. Duncan's prelictions on *parametritis* and *perimetritis*. Now, we give him no heed, for abdominal section has brushed aside all the nonsense he taught. In similar confusion, a striking contrast to the clearness which justifies the efforts of audacious ignorance, Dr. Duncan goes on to jumble up, for the benefit of the ingenuous youth he is paid to mislead, the ancient and modern classification of ectopic gestation, and tells us that "there are two sets of kinds of extra-uterine" gestation with which another which is not extra-uterine must be classed,—our old friend the cornual pregnancy,—continuing, "Of this you have here a museum specimen." I wonder where he got it, for there is none in the Museum at St. Bartholomew's, and only one in London—not familiar, I am sure, to Dr. Matthews Duncan, for it comes from a hated laparatomy. "This (cornual) pregnancy . . . . is generally easily made out on dissection post-mortem" (!!!) Of the three museum specimens known to me, one was completely misunderstood when examined first, and so were the other two, being only unraveled by the enthusiasm of a young demonstrator of anatomy, thirsting for the fame which has since deservedly came to him—Sir William Turner. Of these two cases Dr. Duncan knew nothing till they were republished in my book, and of the third I am sure he knows nothing now, for in all his voluminous writings I cannot find a word about this cornual pregnancy about which he speaks with such flippant familiarity, until I come to this unhappy lecture in the *Lancet*. Besides there being the "two sets of kinds" of extra-uterine pregnancy so clearly defined by Dr. Duncan, he tells us that there are secondary variations: "Thus, an ovarian pregnancy may become ovario-tubal. An interstitial pregnancy may become tubo-uterine" and so a cornual pregnancy behaves like an extra-uterine. "Again, a tubal pregnancy may become extra-peritoneal, the tube opening up the broad ligament, probably

generally by rupture where the folds of the ligament separate to enclose the tube. You know that an ovarian tumor may in like manner open up the broad ligament and become extensively extra-peritoneal." Turning to Dr. Matthews Duncan's Clinical Lectures, this extraordinary mass of nonsense is explained. Dr. Duncan does not yet know the difference between a cystic tumor of the ovary and an embedded cyst of the broad ligament, and I feel hopeless that he ever will. And, to cover all this mass of confusion, the sacred name of Spiegelberg is invoked, chiefly for the purpose of publishing the fact that his book was mistranslated by one of Dr. Duncan's pupils.

Some of Dr. Duncan's assertions on the subject of ectopic gestation are made with all the clearness and decision which he claims for audacious ignorance, and my mind is greatly puzzled whether the greatest respect is due to audacious ignorance or ignorant audacity. "The original site," says Dr. Duncan, of an extra-uterine gestation, "is determined by the insertion of the placenta. There is no other site of placental insertion but the original site—no reason to believe that the placenta ever does or ever can change its site. It cannot be transplanted. Authors of eminence have believed that it can be transplanted," etc., but these poor persons, of whom I am one, are waved behind him, by a Podsnappian gesture, and the poor placenta must, perforce, return to its original site. But I have caught it in the act, over and over again, surreptitiously leaving its original site and fastening its octopus-like villi into strange and new places. I have caught it before it had time to retrace its steps and hide Dr. Duncan's shame. "*E pursi muove.*" Dr. Duncan continues, "Were transplantation of placenta possible, many cases of abdominal pregnancy, or all cases, might be called secondary; and this would increase the predominance of tubal, and give a fine appearance of simplicity." This is precisely the case, and it is the tremendous simplicity of the theory, which is at once its recommendation and its gain. It is the same simplicity which floors Podsnap, who comprehends neither simplicity of motive nor directness of action.

"These remarks," continues our lecturer, "are to be applied to extra-peritoneal pregnancy also—that is, when the ovum grows between the layers of the broad ligament, separating them and reaching the parametric cellular tissue. The placenta cannot be transplanted into the cellular tissue." These two sentences, of course, contradict one another, and Podsnapery defeats itself. It has seen Hart and Carter's plates without understanding them,—it is intellectually blind.

A few more of Dr. Duncan's views may be commented on, because

they are mere statements, in direct opposition to every known fact. Thus, "A tubal gestation generally ruptures, but not always." Can he produce a specimen, after the period of rupture (say the fourteenth week), which has not ruptured? Dr. Duncan has published one case of extra-uterine pregnancy of a character quite unique, but its value does not lie in this direction, as I have had occasion to show. Towards the conclusion of his lecture faint gleams of light seem to have permeated his mind, but, even then, so obscured by prejudice that they must have misled rather than helped his hearers. "In general, it is laparatomy" (by which he ought to have explained to the university graduates, among his audience, that he meant linear abdominal section, and not an incision in the neighborhood of the kidney,) "you have to consider. When the fetus is already viable or further advanced, you will think of early laparatomy, and keep in mind the great danger of hemorrhage in the separation of the placenta, which you have no satisfactory means of arresting." Dr. Duncan is not an authority on abdominal surgery, and, therefore, he ought to accept the statements of those who are, that there exists perfectly satisfactory means of arresting such hemorrhage in the use of perchloride of iron.

His conclusion is still more remarkable, when he formulates his opinion as to "What will be the ultimate result of the present enthusiasm for abdominal surgery, no one can foresee. In extra-uterine gestation much has yet to be done before the utility of laparatomy can be well defined. We need more knowledge of the natural progress of the disease, more knowledge of the anatomy, more experiments in laparatomy. Already much is surely to be gained by judicious laparatomy, and more is to be expected in the future."

About twenty years ago, a decayed old ostler of one of the old city inns used to hang about the scenes of his youth. Broken-down stages lay about the yard, useless, and the old man went about apologizing to such stray visitors as, knowing him not, would listen to him, apologizing for some strange and unforeseen accident which delayed the arrival of the York coach. Poor old Judkins!

How strangely different the words of the modern railway conductor, Lusk by name. His recent paper is one long and judicial examination, with final exordium, not of what I claim as my own, but what I claim for British surgery, the merits of which are so grudgingly withheld, and the views of which are so stupidly misrepresented by Dr. Matthews Duncan.

Within the last few days, we have had what may be termed, by a stretch of courtesy, a debate on Ruptured Tubal Pregnancy at the

Royal Medical and Chirurgical Society, based on a short paper contributed by Mr. Bland Sutton, and upon this paper and some of the speakers in the debate, I wish to make some comments.

In the first place, Mr. Bland Sutton gave very marked prominence to an ordinance with which I entirely agree, that cases of intra-peritoneal hemorrhage should not be classed as instances of ruptured tubal pregnancy, unless some evidence of fetus or membranes was forthcoming. He was pleased to find so many speakers agreed with him—indeed some speakers seemed to have this string only upon which to play. With all this, as I have said, I entirely agree. But, I want to know what necessity there is for all this energetic denunciation. Where are the cases, and by whom published, which have been regarded and asserted to be cases of ruptured tubal pregnancy, without some evidence of fetus or membranes? I have been watching the literature of this subject most closely for the last fifteen years, and I have not seen any such case published, and it would be very much fairer if the denunciators would point out the delinquents.

Before I go further, let me point out that Mr. Bland Sutton seems to limit his proof to fetus and membranes, but, I suppose, he includes with the latter the placenta; and that it is a mere omission of the pen that he has not specifically mentioned this, the most important proof of all. I point out this markedly because in this reply "he considered it unjustifiable to say in these negative cases that the fetus had been dissolved, but cases in which embryos were not found should be put in a class by themselves until a true cause for them could be found." Here it does really seem as if he had forgotten all about the placenta. Let me say, as the writer who has had now the largest experience of these cases, that in the majority of instances the embryo escapes at the first rupture into the peritoneal cavity and is then lost, is never found and must be digested, for it never does any harm. Similarly the membranes are very rarely seen, but the placenta and its traces are irremovable, because its site is uniformly the bleeding point, and microscopic investigation always reveals its villi permeating the muscular walls of the tube. I have now published forty-five cases of ruptured tubal pregnancy, and in every one this proof has been obtained and can be obtained, for I can put my fingers on every one of the preparations if there is any dispute concerning the fact. Every one of these preparations has been publicly exhibited and discussed at meetings of the British Medical Association, the Midland Medical Society, and the British Gynecological Society. I have, for some time past, ceased to make any communications to the older Metropolitan Societies, for I found that to do so was only to subject

myself to much bullying by the chairman ; that to ask for a committee of investigation of my specimens, to corroborate or correct my statements, was only to meet with a court of refusal, and finally my papers were refused publication.

I was specially invited to be present at the hearing of Mr. Bland Sutton's paper, but I need not say that after such treatment I did not avail myself of it. Although I have been for years a member of these societies, I find that the area of publication through them and the advantage of public criticism is denied to me.

To return to the debate of Mr. Sutton's paper: it was most remarkable for the habitual confusion in the minds of most of the speakers, concerning the two varieties of hematocele, intra-peritoneal and extra-peritoneal. I have now seen post-mortem examinations, or surgical operations performed on over eighty cases of extra-peritoneal hematocele (I do not include a few cases where the origin was traumatic, or from a ruptured liver, or from the slipping of the knot on a pedicle,) and in every one of them the cause was a ruptured tubal pregnancy. I may, therefore, be fully excused, when I say that I am entirely sceptical about the statement made by Dr. Cullingworth that intra-peritoneal hematocele might occur from numberless causes. If it does, where are the recorded cases, and what are the proofs?

Dr. Cullingworth speaks of a case in which, on abdominal section, a considerable amount of soft dark clot was found encysted in the peritoneum. He must have meant encysted *by* the peritoneum, that is, the peritoneum raised over it by the effusion—an extra-peritoneal hematocele,—such a case as was immediately after typically described by Dr. Walter, "a dark colored elastic tumor reaching nearly to the umbilicus." In this case, the fetal remains were found at the base, and the case was clearly a broad ligament hematocele, resulting from the rupture of a tubal pregnancy. Dr. Walter's case was precisely the kind in which abdominal section was *not* wanted, quite the case to get well by nature's own process.

The origin of Dr. Walter's case was precisely that of the case jointly alluded to by Dr. Matthews Duncan and Dr. Priestley, in which the patient was suddenly seized with symptoms of hematocele, but where operation was most properly not performed. Eight months after, a dead fetus was extracted from the cavity of the broad ligament, into which the tube had ruptured at the time of the original attack. This is quite the case in which operation at the time of rupture is *not* required, indeed, would be most improper, and the pregnancy ought always be allowed to go on. But the case ought to have been interfered with about six months after, and not eight; for at the end of six months a living child might have been extracted.

Dr. Priestley introduces a new nomenclature for hematocele. He speaks of a "pure" hematocele. What is this? Still more patiently we wait to know when a hematocele may be regarded as impure. He says: "In pure hematocele the patient usually gets well, but if the case were interfered with by operation it was liable to go wrong, either from the direct results of the operation or from subsequent hemorrhage." Now, this is precisely the truth concerning extra-peritoneal or broad ligament hematocele, but why is it to be called "pure" hematocele? "Such cases should be interfered with only when suppuration took place." This may mean when it becomes impure; then we must speak of pure and impure extra-peritoneal hematocele, for intra-peritoneal hematoceles never suppurate.

Of the confusion on this subject indicated by the utterances of Dr. Matthews Duncan, it is almost impossible to speak with patience. He begins his speech with my name, and therefore, I have a right to answer him, and he says: "These enthusiasts for operations taught that there was no such thing as a hematocele, except those produced by ruptured tubal pregnancy, whereas, it was known that hematocele was common even in virgins." By the omission here of the words intra-peritoneal and extra-peritoneal, as defining two wholly different diseases,—different in their origin, in their pathology, and different in what they demand for treatment, wide as the poles asunder,—Dr. Duncan makes these enthusiasts say exactly the opposite of what they have been shouting on the housetops for fifteen years. Dr. Duncan is in the dilemma either of wilful and mischievous representation, or of a dullness of apprehension which is beyond the measurement of mental plummet. I think it must be the latter, for he confesses that he, a man who abhors operations, urged operation in a case of broad ligament hematocele, a proceeding which the enthusiasts condemn. Dr. Duncan is, of course, at liberty to lecture upon this incomprehensible pathology, and to advocate his bad surgery as much as he likes, but he has no right to put them in the mouths of people to object to them, and condemn them unceasingly and emphatically.

Mr. Bland Sutton's communications upon pathology are always interesting and most suggestive, but I have hitherto found them rather of a transcendental than of a practical nature, and his suggestion that the cause of rupture of a tubal pregnancy is an apoplectic change in the ovum belongs rather to this order. In the first place, it cannot possibly be regarded as an explanation; at best, it is only carrying the process one step forward. If the apoplexy is the cause of the rupture, something must be the cause of the apoplexy. It seems to me that the suggestion is clearly based only upon the one case with which he

has had experience, and it is diametrically inconsistent with the fact that no preparation has yet been exhibited in which a rupture of a tubal pregnancy has not taken place at a date earlier than the thirteenth week, and the majority of the preparations exhibit no apoplectic conditions whatever. Microscopic investigations of one injected and many non-injected specimens, which I have made, and the results of which I have published over and over again, show that the implantation of the placental villi in the wall of the Fallopian tube involves an enormous increase in the diameter of all the vessels of the structure of the tube, just as results when the placenta implants itself in the uterus, or upon intestine, or upon abdominal wall, or elsewhere. Microscopic investigation, and the complete injection of specimens removed, which I have succeeded in preparing, show that it is at the very spot where the substance of the tubal wall is thinned out by these enlarged vessels that the rupture invariably occurs, and, in the very last specimen which came under my care for the purpose of operation, the rent in the tube is no larger than a pellet of wheat, but the enlarged vessels, at the point of rupture, could be seen, when the specimen was fresh, by a low-power lense with perfect ease, and there was not the slightest apoplectic effusion in the ovum, which is certainly not more than five or six weeks' growth. That a primary effusion of blood into the ovum cavity might precede the actual rupture of the tube now and then, is likely enough, but the suggestion that the cause of rupture is apoplexy of the ovum is simply a proposal to put the cart before the horse.

If Mr. Bland Sutton, and those who took part in the discussion, had read a short paper in the Edinburgh *Medical Journal* for the last month, by Dr. Berry Hart, they could scarcely have failed to have risen to a higher level of accuracy in their statement than was attained. A few sentences from that paper, so absolutely confirmatory of what I have said and repeated at intervals for years past, are worth while quoting here. The first is as follows:

> As all know, the Fallopian tube is, in the vast majority of instances, the starting point of extra-uterine gestation. The most common result of this is that rupture occurs, usually at the second month, through some part of the tube covered by peritoneum, a result almost invariably fatal if left alone, and as invariably curable if operated on in time by abdominal section.
>
> A rarer termination in Fallopian tube gestation is, that further development takes place between the layers of the broad ligament, which become separated to accommodate fetus and placenta. Even here, rupture into the peritoneum may occur; but if the peritoneum remains intact we may get a continuance of development.

And he goes on to prove the utter inaccuracy of Dr. Matthews

Duncan's statements that the placenta cannot be transplanted, and cannot be moved, and cannot be implanted on cellular tissue, by giving the evidence of his own homalographic sections, which Dr. Duncan quotes, but does not understand. He shows that this displacement may occur, even to the extent of ten inches in distance, and beautifully explains how, "inasmuch as this amount of displacement was accomplished in about as many months, there was never any gross separation, but a slow microscopic progress, which, as we shall see, causes slow blood effusion and organization."

He shows, by drawings of actual specimens, that the large sinuses, which I have described as formed in the muscular walls of the tube, had actually occurred; that the villi, in this way, are compressed, the serotina is destroyed, and, therefore, the relation between mother and fetus so interrupted as to give the explanation of the numerous deaths of extra-uterine children.

This villous destruction and the inevitable epithelial destruction are predisposing in all probability, as is clearly pointed out by Dr. Berry Hart, the causes of the actual apoplectic effusion, which is seen in the future transplantation processes of the placenta, but there is nothing in my own preparations, nor do I see anything in Dr. Berry Hart's observations, which justifies me in the belief that this actual process, to which there exists abundant enough evidence in the post-rupture period of tubal pregnancy, is to be asserted as in any way the immediate or even the indirect cause of tubal rupture. The direct cause is villous implantation, the growth of the sinuses in the muscular coat of the tube, whilst the immediate and direct cause of rupture is generally some slight strain or accident.

7 The Crescent, November 23, 1889.

LIGATURES AND SUTURES—WHAT MATERIAL SHALL BE USED?[1]

By CLINTON CUSHING, M. D.,
Professor of Gynecology in Cooper Medical College, San Francisco, Cal.

Ligatures and sutures play so important a part in the daily work of the surgeon and gynecologist, that a consideration of the advantages and disadvantages of the various kinds that have been used may prove of service.

Doubtless, nearly all of us finally arrive at a conclusion in favor of some special variety, based upon individual experience and habit. It

1. Read at the annual meeting of the American Association of Obstetricians and Gynecologists at Cincinnati, O., September 19, 1889.

would appear to me that there is as yet no material used for sutures and ligatures that is equally useful and applicable at all times and under all circumstances. If this proposition is true, it is in order to discuss when and where to use certain of the kinds in general use, and the methods of their preparation. The following list embraces all that I am entitled to an opinion upon from personal observation:

Catgut,
Silkworm-gut,
Silk,
Silver wire,
Elastic ligature.

For the past three years, I have prepared all the catgut that I have used with my own hands, and a large experience with it has led me to the conclusion that it is the best obtainable material in certain cases of plastic and abdominal surgery. I purchase from the wholesale dealers in musical instruments several boxes of three sizes of the catgut strings used on the violin. I get the best quality. They are placed in a large open-mouthed bottle filled with sulphuric ether, and allowed to remain for forty-eight hours. When removed, they are very nearly perfectly white, as the ether removes from the catgut all the animal oil. They are then placed in a mixture of three parts alcohol and one part juniper oil, with the addition of three drachms of hydronaphthol to each quart of the fluid. The strings are allowed to remain in this mixture for ten days, when they are ready for use. They are semi-transparent in appearance, are perfectly flexible, and exceedingly strong.

The largest size, or D string of the violin, I use for ligating the pedicle in ovariotomy, and for repairing the perineum. The A string, or middle size, I use for repairing the cervix, and for a buried suture either in the perineum or in the abdominal wall. The E string, or smallest size, I use for ligating adhesions and bleeding vessels in the abdominal cavity.

The D and A strings do not become absorbed by the tissues in less than from seven to nine days, as can be easily demonstrated by observation.

I have also used the A string for stitching together the muscular and peritoneal surfaces of the cervix after hysterectomy for a fibroid tumor. The indications for using catgut as a ligature for the pedicle, after the removal of the tubes or ovaries, will be gone into more fully when speaking of the silk ligature. For the buried suture, in either the perineum or the abdominal wall, the catgut, prepared in this manner, is probably the best. For repairing the cervix, I have found it

more satisfactory than any other material, as it does not cut out of the tissues, and holds sufficiently long to secure union. The only disadvantage thus far noticed is that occasionally a small fistulous tract remains along one of the suture holes.

The method of closing the cervix with catgut is exceedingly simple and very rapid. A strong double knot is tied in one end of a piece of gut, about eighteen inches long; the opposite end is frayed out with the back of a knife until perfectly soft and flexible; this is then threaded in a strong needle with a large eye; this triangular-pointed needle is introduced in the usual way at the upper angle of denudation, and drawn until the knot presses against the mucous membrane at the point of introduction of the needle, and then a running or whip-stitch is taken over and over, taking up a goodly amount of the tissue, until the entire line has been closed. I then go back about two stitches, and take two stitches through the already closed part, and then, by making a small running nooze with the last stitch, the catgut is prevented from slipping.

In the perineum, after the denudation in the usual manner, about four sutures are introduced in such a fashion that when they are tied the pelvic floor is lifted upward. The four sutures are then tied with three firm knots, and the ends left an inch or more in length, which prevents the knot from untying or slipping. I use, for this purpose, a very thick and rather short darning-needle, which is the only needle I am able to obtain with a sufficiently large eye to carry the heavy catgut; the suture material in this case, as in the other, being frayed out at the end with the back of a knife, in order to make it soft and pliable. The results in the perineal operations thus far have been all that could be desired in quite a large number of cases.

The advantages of this substance in repairing the perineum are that, in the first place, the material does not tend to cut out, on account of its size; in the next place, it fills the track made by the needle perfectly, because as it becomes softened it swells; in the next place, it apparently does not tend to become septic, as I have not seen any abscess or any noticeable collection of pus about the track of the stitches; and lastly, it does not require the separation of the parts and the worry and anxiety to the patient when the stitches are removed that must take place where silver wire or silkworm-gut, or silk, is used.

Where the perineum and cervix are both repaired at the same sitting, the advantage of catgut for the cervical operation is very decided, because, however well the perineum may unite, it certainly must be considered a detriment to put it upon the stretch with the speculum during the first month, in order to remove the stitches from the cervix, where

silver wire, or silk, or silkworm-gut, has been used; and it is true that quite a large proportion of women who require an operation for laceration of the perineum, require also an operation for laceration of the cervix.

The smallest, or E, string is sufficiently strong to ligate safely and successfully almost any bloodvessel in the body, because if a vessel has been thoroughly occluded for one week it may be considered safe, unless the vessel should be badly diseased.

Olshausen, who has written one of the best books on ovariotomy with which I am familiar, says:

> The objections to catgut, that it slips easily, that it is impossible to pull it tightly, and that the knots will loosen, are not justified if the ligature is properly made—that is, with solid, thick, or double threads; if it is drawn firmly, and under vibrating movements of the hands, is knotted three times, the ends in front of the last knot are left long, and a broad mass of tissue allowed to remain.

In another place he says:

> What becomes of the ligature material after an ovariotomy? This depends on circumstances. Carbolized catgut is finally absorbed in the peritoneal cavity, as it is in other living tissues, but it seems to me very probable that the absorption occurs more slowly in the peritoneal cavity than in other tissues. In eleven autopsies in cases of ovariotomy in which the pedicle had been ligated with thick catgut, I found the ligature perfectly firm and unsoftened, although death had not occurred in six cases until the sixth to the thirteenth days.

J. Greig Smith, in his recent work on Abdominal Surgery, says:

> As material for ligature, there is no strong objection to catgut. I have used it and nothing else in more than twenty ovariotomies, and find it perfectly reliable. Its drawbacks are, the trouble necessary for its perfect preparation, and its tendency to deteriorate by keeping; such drawbacks being, in my opinion, of sufficient weight to justify its being displaced by the more handy and equally trustworthy silk twist.

I am convinced that surgeons who have failed with the use of catgut have used it of too small calibre, or have trusted to specimens found in the shops—samples, perhaps, of unknown age.

There are no needles in the instrument shops suitable for the use of heavy catgut, and I have been compelled to use large darning-needles for the perineum, and to have needles especially made for the cervix. These were made from large-size curved needles, broken off an inch and a quarter from the eye, and the broken part ground to a triangular point.

The treatment of the catgut by the ether, by taking out all the animal oil, renders it antiseptic. Were this not true, the ten days' immersion in the alcohol, hydronaphthol, and juniper oil would most certainly do so. The juniper oil renders the gut sufficiently soft and flexible. I believe it to be a mistake to place the animal sutures in

corrosive sublimate solutions, as they are thereby rendered more fragile. The catgut should be used direct from the solution of alcohol and juniper oil, and not put into water before using, as the water makes these ligatures soft and slippery, and difficult to handle.

Dr. Henry O. Marcy, of Boston, uses an animal ligature made from the tendinous part of a kangaroo's tail, and claims excellent results therefrom. Fibers from the leg-tendons of the moose have also been used. These sources of supply, however, being limited and uncertain, the probabilities are that our animal ligatures in the future will be the catgut of commerce.

Dr. Nathan Smith, of Connecticut, in 1821, used as ligatures for the pedicle in ovariotomy, strips of leather cut from a kid glove, the pedicle was dropped, the abdomen closed, and the patient recovered; and it has occurred to me that fine strips of buckskin, properly prepared, as I prepare the catgut which I use, might make a most admirable ligature for the pedicle in an ovariotomy, for the reason that it is softer and easier to handle than catgut, does not cut the tissue so much in tying, and will resist absorption longer than catgut, but will probably be absorbed much more quickly than silk. At a future meeting I will give the Association the result of my experiments in this direction.

Silkworm-gut has qualities that are possessed by no other material —that of being absolutely unirritating to the tissues in which it is imbedded, and non-absorbable—at least for a long time. I believe it to be the best material for closing the abdominal wall after an abdominal section. No stitch-hole abscesses have occurred in any of my cases where this material has been used.

It is also an excellent material for perineal sutures. I formerly used it frequently, and with satisfaction. Instead of tying it, and leaving the sharp ends to prick and annoy the patient, I slide over the two ends of the stitch a perforated shot, in which has been tied a loop of strong black silk, an inch in length. When the parts are approximated, the shot is run down to the perineal surface and clamped firmly; then the ends of the stitches are cut off on a level with the surface of the shot. Now, when the sutures are to be removed, the loop of black silk enables you to draw the shot up, so as to make it easy of access, in order that one side of the stitch may be clipped.

The cervix can be united with this same material and in the same manner, and, as the material is not in the least irritating, the suture can be left *in situ* for several weeks; but the operation is not so rapidly and easily done as with catgut.

Silk thread is more generally used by surgeons for sutures and liga-

tures than any other material, on account of its ease in handling, its non-absorbability, and its strength. These are, undoubtedly, advantages, but it has its disadvantages in being porous, and, therefore, easily absorbing secretions which undergo decomposition and set up local infection. If the silk is first made absolutely aseptic, and the ligature is enclosed in tissue or in a cavity that is also aseptic, no better material could be desired; but these conditions are very different on the surface of the body, or in the mucous canals, or in the peritoneal cavity which has been flooded with pus from a pyosalpinx that has been ruptured during its removal—an accident that occurs frequently in the hands of all operators.

Silk, then, for ligatures in the peritoneal cavity, where no pus or infection exists, is the best; but if the case is one requiring the use of the drainage-tube, catgut should be used. The reasons, it seems to me, are exceedingly simple. If suppuration occurs from any cause, whether imperfect cleansing of the peritoneal cavity, or infection introduced through the drainage-tube, and the ligature material of silk becomes involved, the probabilities are that a fistula will remain until the ligature comes away, either forming the nidus for an abscess which opens into the rectum or the bladder, or discharges through the opening left at the site of the drainage-tube. The ligature ultimately is thrown off, and the case recovers.

I doubt not, there are few who have had much to do with abdominal surgery, especially in the removal of the Fallopian tubes in cases of pyosalpinx, but have had this unfortunate experience of a fistula being left after the operation; and it is probable that this fistula was due to the existence of an infected ligature in a considerable proportion of cases. Twice during the past year, I have been forced to enlarge the opening left by the drainage-tube and remove the ligature from the pedicle, in order to secure the healing of fistulæ.

In a recent discussion before the Obstetrical Society of Philadelphia, Dr. Howard A. Kelly says:

> I have known cases of infection of ligatures from a tube left in for a protracted length of time. I have frequently had ligatures sent to me by patients. In all these cases the fistulæ, which have persisted for weeks or months, have healed when the ligature has been rejected.

Dr. Goodell says:

> I have on several occasions fished ligatures out of a fistulous tract, and thus cured it. I am satisfied that one patient, on whom I performed ovariotomy a year ago, and who is suffering from a fistula, has a ligature at the bottom of the tract.

Several other members of the Society also cited one or more cases of fistula following abdominal operations, that failed to heal until the loop of silk used in tying the pedicle had come away.

The argument, it seems to me, with our present light, is easy of solution. In a simple case of ovariotomy where no pus exists, or there is no need for a drainage-tube, silk, properly prepared, is the best material. If, on the other hand, it is necessary to leave a drainage-tube in the cavity, or the cavity of the peritoneum has been infected with pus, catgut should be used, for the simple reason that it will disappear by absorption in ten days, and will not thus be a cause of fistula or abscess.

There is a strong feeling in the minds of nearly all, that silk is the safest material for ligature in ovariotomy, but I doubt not that properly prepared catgut, of the calibre of the D string of the violin, is strong enough and safe enough for any pedicle, however large.

I have had made at the silk factory at San Francisco a kind of heavy silk for the pedicle in ovariotomy cases, which seems to me to possess some advantages over any that I have seen. It is made of the best quality of Chinese silk, thoroughly washed, and is extremely soft; it is very loosely twisted, and when tied applies itself smoothly to the parts without cutting; the knot does not slip, as is the case with the harsh and tightly twisted silk found in the shops. The variety that I saw used in Great Britain by Keith, Tait, Bantock, and Thornton, is made of unwashed silk, with the natural gum still in it. It is harsh, twisted very tightly, and, under the finger, feels like coarse linen. This, when tied, acts almost like a piece of wire, and the knot tends to slip much more than it does with the soft and loosely twisted thread.

I herewith present to the Association a sample of the silk made here. The silk used for ligating vessels is the kind sold in the dry-goods shops on spools, and marked "double E." It is very strong, and much cheaper than that bought in small hanks at the instrument shops.

In injuries of the bowel, and in a resection of the bowel for stricture, I have always used, for uniting the cut portions of the gut, fine sewing silk, and I think it is generally agreed that no material is so satisfactory as this for repairing a wound of the intestine.

I prepare the silk by first winding it loosely on a wooden reel. This is then boiled in a saturated solution of water and hydronaphtho for half an hour. It is then placed in absolute alcohol, containing hydronaphthol, for twenty-four hours. It is then wound upon spools and is ready for use, the spool being dropped into a saturated solution of hydronaphthol and water each time before using.

Silver wire I use less each year. For some years I have used it only in cases of vesico-vaginal fistula, but I doubt not silkworm-gut would be equally good material in such cases. Its advantages of being unirritating to the tissues and easily made aseptic, are qualities which

hold equally good of the silkworm-gut. Its disadvantages are, that its introduction is attended with more difficulty than the sutures that have been already mentioned, on account of its stiffness, as we must first introduce a loop of silk and afterward draw the wire into position; whereas, with the silkworm-gut it can be threaded directly into the eye of the needle and placed *in situ* more easily and more rapidly. Furthermore, the silkworm-gut is less costly. It has seemed to me, too, that silver wire tends to cut out of the tissues more readily than the silkworm-gut.

The elastic ligature I have only used to surround the stump in amputation of the body of the uterus for fibroid tumor. Where the stump is treated extra-peritoneally, the elastic ligature has seemed to me to have many advantages over other methods of controlling hemorrhage; but my success of late in the treatment of the stump according to the plan of Schroeder, by ligating the principal vessels at the side of the cervix, excavating the surface of the stump, and suturing first the muscular and afterward the peritoneal coats together with heavy catgut, and closing the abdomen, have been such that I have seldom used the elastic ligature. Olshausen has applied it to the pedicle in ovariotomy in a large number of cases, and, he claims, with good success; and he has demonstrated by subsequent examinations that the rubber ligature becomes encysted and does no harm. Of this, however, I know nothing personally.

636 Sutter Street.

THE THERAPEUTIC VALUE OF ALCOHOL[1].

By J. W. GROSVENOR, M. D.

Who the discoverer of alcohol was, authentic history does not inform us. We are even ignorant of the name of the person who invented the art of distillation. It may have had its origin in China, or India, or Arabia. There is some ground for believing that Avicenna, a Moorish physician, who died in 1036, had a knowledge of distillation, and used this knowledge in his medical practice. History affords indisputable evidence that Albucasis, a distinguished Moorish physician and chemist who died in the year 1106, was acquainted with the art of distillation, and made brandy.

The term alcohol, as a name for the spirit distilled from wine, did not come into use until the sixteenth century. Since that date, the

1. Read before the Buffalo Medical and Surgical Association, November 12, 1889.

word has obtained a much wider application. Chemical science, in the last fifty years, has evolved many allied substances of different chemical composition named alcohols. Unless otherwise indicated, alcohol, in this paper, will refer to ethyl alcohol—that kind which is in common use for internal administration.

The early history of alcohol, as a therapeutic agent, is enveloped in considerable obscurity. No historical record informs us who first used it as a remedy for disease, nor the time and place of such use. It is reasonable to suppose that the people who first used wine, or other alcoholic liquid, as a beverage, was the first to employ it as a medicine. The exalted position given to wine, and the marvelous virtues attributed to it, by the early nations, would be likely to direct attention to it as a healer of disease. The alchemists regarded the spirits of wine as the elixir of life; from this view, it would only be a step to the suggestion that it would ward off death.

The first work upon the use of alcohol as a medicine, entitled "Concerning the Use and Utility of Brandy," was written by a German physician, Dr. Michel Schrick, and published in 1483. By the close of the sixteenth century, the use of alcohol as a medicine was common among all the nations of Europe, and was regarded, in some quarters, as almost a panacea. Its effect upon mind and body was considered as little less than marvelous. Here and there, along the medical career of alcohol, have arisen physicians who have disbelieved its wonderful efficacy. In 1725, was issued a book from the pen of Dr. George Cheyne, an English physician, in which he represents alcohol as scarcely deserving a place in the apothecary's shop. Thomas Beddoes, a talented English physician and chemist, in his Hygeia, published in 1802, called attention to many dangers resulting from the medicinal use of alcoholics. As early as 1832, Dr. John Higginbotham, of Nottingham, Eng., had abandoned the medical prescription of alcohol. He was a man of strong mind, and wrote several articles on the non-alcoholic treatment of disease, which were published in the London *Lancet* and *British Medical Journal.* An ardent advocate of the medical use of alcoholics appeared in the person of Robert Bentley Todd, a London physician and noted physiologist, who flourished in the middle of the present century, and wrote "Clinical Lectures on Certain Acute Diseases." He specially favored the use of alcoholic medication in fevers. His argument was, that these diseases were weakening in their nature, and needed supporting treatment through all their stages; that alcohol was a food, and was capable of furnishing, to the debilitated system, the materials needed for its support. Dr. Todd was a vigorous and voluminous writer, and

secured the following of many physicians of his time. The author of this paper recalls the treatment of typhoid fever, twenty-five years ago, by Dr. A. L. Loomis, in the wards of Bellevue Hospital, New York City. His favorite remedy at that time was whiskey, of which three pints, or two quarts, for a patient each twenty-four hours, was not an uncommon quantity.

Soon after the death of Dr. Todd, above mentioned, there was a change in medical opinion concerning the efficacy of his excessive alcoholic treatment. Many of his imitators largely reduced their doses of alcohol, and there started a flow of opinion in favor of non-alcoholic medication in all diseases. In 1866, F. R. Lees, an English physician, published his book, "Is Alcohol a Medicine?" This work awakened thought and stimulated investigation. A few years of agitation resulted in the establishment of the London Temperance Hospital, the *Medical Temperance Journal*, and the British Medical Temperance Association, for the purpose of investigating the medicinal virtues of alcohol, and of testing the utility of treating disease without alcohol.

In this country, Dr. N. S. Davis has occupied a prominent position for the past twenty-five years, in favor of an extremely limited use of alcoholic medication. At the twenty-third annual meeting of the American Medical Association, in May, 1872, "a resolution to discourage the use of alcohol in medicine was unanimously carried." At the meeting of the International Medical Congress, held in Philadelphia, in September, 1876, Dr. Ezra M. Hunt, of New Jersey, presented to the Medical Section a paper on the subject of Alcohol as a Food and Medicine. Dr. Hunt took the position that the field for the action of alcohol as a proper medicinal agent was exceedingly narrow. The sentiments of this paper were quite unanimously agreed to by the Section on Medicine.

It is believed that, during the last two decades, a tide of medical opinion has been setting towards a restricted use of alcohol as a remedial agent in disease. This is notably the case in England. Sir William Gull, Sir Henry Thompson, Drs. Richardson, Ridge, Kerr, Ritchie, Edmunds, Munroe, Parkes, and Hare, all well-known English physicians, may be reckoned on the side of medical reform in this respect. Other countries of Europe furnish an occasional bright name, of which the same statement may be truly made. In this land, Drs. Davis, Hunt, Hargreaves, Story, and many lesser lights, are earnest advocates of confining alcohol, as a medicine, within very narrow limits.

Doubtless, the majority of physicians of to-day prescribe alcohol

with the same freedom as did the medical profession of twenty-five years ago; quite a large minority use much more discrimination in this regard; a comparative few use alcohol, remedially, in only rare instances; here and there may be found a medical practitioner who has altogether discarded it from his list of remedial agents. It is my belief that the medical profession of the world is losing its faith in the beneficial effects of alcohol upon the diseased human system. As the day of indiscriminate phlebotomy has passed away, so is passing away the inconsiderate exhibition of alcoholic medicines.

It is a fact, more clearly and more universally recognized than formerly, that the medicinal ingredient of all alcoholic liquids is alcohol. It is the alcohol in beer, wine, whiskey, and brandy, upon which the physician depends for his desired effect, except that beer may sometimes be prescribed on account of the hops it contains. If these alcoholics were deprived of their alcohol, their special virtue would disappear, and no physician would recommend them to his patients.

The value of alcohol as a therapeutic agent can only be determined after a due consideration of its characteristics and its effects upon the human system.

Alcohol is a poison. This characteristic has been clearly recognized by eminent chemists, physiologists, and toxicologists of this country and of foreign lands. Several medical dispensatories and medical dictionaries have pronounced it a poison. This has been the declaration of such men as Taylor, Copeland, Christison, Regnault, Pereira, Carpenter, Orfila, Beck, and Mussey. This truth has been demonstrated upon the lower animals as well as upon man. Dr. Percy injected two and a half ounces of alcohol into the stomach of a full-grown dog. It fell lifeless to the ground at once. Six ounces of alcohol being thrown into the stomach of a large dog, by the same experimenter, it fell at once and never afterward moved a limb, ceasing to breathe after an hour and twenty minutes. Fontane performed similar experiments upon frogs and turtles, with like results. The experiments of Mitscherlich upon rabbits, and of Jacobi and of Falck upon pigeons, rabbits and dogs, arrived at similar conclusions.

When introduced into the human stomach, in large doses, alcohol produces the same poisonous effect as upon animals. Prof. Christison mentions the case of a man who stole a bottle of whiskey and died in four hours after drinking it. Dr. Mitchell in his Therapeutics cites the case of a boy, ten years of age, who drank from his father's whiskey bottle and was dead in less than an hour. Orfila in his Traité de Toxicologie refers to the case of a man who died immediately on tak-

ing a large dose of brandy. In his Medical Jurisprudence, Dr. Taylor tells of a man who drank a bottle of gin for a wager, and died in half an hour. Dr. P. DeMarmon, of King's Bridge, New York, has reported the case of a boy, five years old, who died in nineteen hours after drinking a glass of whiskey. Into the Northern Hospital, Liverpool, Eng., in the year 1868, were admitted thirty-six cases of acute alcoholic poisoning. Doubtless, a similar statement might be made concerning every large general hospital in Europe and in this country. Probably but few physicians have practised five or ten years who have not seen several such cases, and many city physicians have come in contact with scores of them.

In cases of sudden death from large quantities of alcohol, doubtless, a profound effect has been made upon some of the great nervous centers. Alcohol, however, finds its way so rapidly into the various organs that even, in many of these cases, a poisonous effect is produced upon the general system. In cases of ingestion of alcohol in small quantities, over long periods of time, its effect is equally poisonous and death is equally certain, as in cases of large doses taken at once, as mentioned above.

Dahlstrom experimented for a period of eight months upon three dogs, and daily gave each of them six ounces of potato brandy. At the end of this time one died and two were killed. The undoubtedly poisonous effects of alcohol were shown all along these eight months of experimentation. Duchek made similar experiments upon dogs, with like results. The many cases of chronic alcoholism seen by every physician, afford indubitable proof of the poisonous effects of alcohol on the human organism, even when taken in moderate amounts if long continued.

The question whether alcohol is a food has been discussed during the past fifty years with considerable energy and thoughtfulness. Both sides of the question have had able advocates. It has been held that in tissue-wasting, and debilitated conditions of disease, alcohol is useful as a food-support to the system. Foods have been divided into two general classes, nitrogenous and carbonaceous, the former being the tissue-making, the latter the heat-producing foods. This classification may not be strictly correct, under all circumstances; for food, which, under ordinary conditions, produces tissue, may, under exceptional conditions, produce heat, and *vice versa*, but this division may be sufficiently accurate for the purposes of this essay.

Alcohol contains no nitrogen and none of the compounds which belong to tissue-making foods; its action upon the system does not accord with that of the usual nitrogenous foods. Hence, there is no

solid ground for believing it to be a nitrogenous food; indeed, the advocates for regarding it in this light are exceedingly few. If alcohol is a carbonaceous food, its behavior should be similar to articles which are clearly recognized as carbonaceous foods. The experiments of Dr. N. S. Davis conclusively prove that during the digestion of all kinds of food the bodily temperature is increased, while, within half an hour after the ingestion of alcohol, the temperature falls and continues to be lowered for the coming two or three hours. Dr. B. W. Richardson's observations are in accord with those of Dr. Davis. The paralyzing effect of alcohol upon the vaso-motor system of nerves weakens the contractile power of the minute blood-vessels; an unusual quantity of blood reaches the surface of the body, and thus, for a brief period, elevates its temperature.

Other experimenters have noted the same or similar effects. If alcohol is a heat-producer, it ought to undergo oxidation, and the products of its oxidation, which are aldehyde and acetic acid, should be discoverable. These articles have not been found in the system, or they have appeared in such an almost infinitesimal quantity, that their presence is scarcely an argument in favor of the heat-producing nature of alcohol.

The heat-value of the carbonaceous foods is largely determined by the amount of carbonic acid exhaled from the lungs during their digestion. The richer in heat-quality is any food the larger amount of carbonic acid exhaled will follow its ingestion. No increase in the quantity of carbonic acid thrown off from the lungs, follows the ingestion of alcohol—in fact, a decided decrease has been noted by some experimenters. In a series of experiments made three-quarters of a century ago, Dr. Prout, according to the statement of another, "established the fact that alcoholic liquors diminished the quantity of carbonic acid eliminated more than any other article he experimented with." In Dr. Prout's own words, "alcohol enormously depresses the combustion of the carbon of the system during its existence in the body."

Anstie, a strong advocate of the usefulness of alcohol as a medicine, on the ground that it produces some kind of force in the system, declares that "this force cannot be heat." It is the uniform experience of those subjected to the rigors of northern latitudes, that alcoholic beverages do not increase the power of resistance against intense cold. Total abstainers have best withstood the hardships of Arctic expeditions.

It is generally admitted that force accompanies the production of heat, and that without heat there is no force. Granting this to be

true, and that alcohol has no heat-producing power in the body, of what utility is it as a force-generating food?

It has been claimed that the extra accumulation of fat by habitual drinkers of alcoholics is an evidence that alcohol is a food. It has not been proven that such an accumulation exists in cases of those who drink pure alcoholics. If such a condition exists at all, it is due to articles such as sugar taken in combination with the alcohol. Such a condition may not contribute to the health of the body. It is a fact, acknowledged by all who are conversant with this subject, that alcohol produces fatty degeneration in various organs and tissues of the body. It has been aptly termed the "genius of degeneration." It is hardly appropriate to call that article food which so largely contributes to disease as alcohol. It has been maintained that alcohol, if not a tissue-forming nor a heat-producing food, is a food in the sense that it retards tissue waste. Experiments to ascertain whether the waste of tissue is less rapid under the use of alcohol than without it, have been made by Dr. E. A. Parkes. He regarded the elimination of urea as a fair test of the amount of tissue wasted. His experiments were made upon a healthy soldier. Notice was taken of the amount of urea excreted when at work and drinking simple water, and also when at work and drinking twelve ounces of brandy each day. The amount varied so little under the two conditions that he very properly concluded that alcohol had no effect in retarding the waste of tissue. Accepting this conclusion as correct, alcohol cannot be regarded as a food in the sense that it retards regressive metamorphosis.

If alcohol does not promote the formation of tissue, does not increase the heat of the body, and fails to prevent any waste of tissue, it is difficult to see in what sense it should be called a food. If not a food, there is no reason for administering it in disease on the ground that as food it will support the system.

The question whether alcohol is a stimulant has been the subject of sharp controversy. Since its discovery, until a comparatively brief period, the belief that it was a genuine stimulant reigned supreme among all classes. Much of this difference of opinion has hinged upon the difference of definitions given to the word stimulant. If a stimulant is something which adds force to the system, it is doubtful if alcohol can be properly styled a stimulant. If a stimulant is something which irritates and excites the system, without bestowing upon it any power, alcohol may lay some claim to the term stimulant. The most casual observer may notice that a person who has taken alcohol in some form is in an excited condition, physically and mentally. The excitement lasts a longer or shorter time, depending upon the amount of

alcohol taken. If the quantity taken is large, there is either no stage of excitement or this soon passes away to be followed by a stage of depression. It is my belief that whatever excitement may follow a dose of alcohol, is produced by its depressing character. The vaso-motor nerves become partially paralyzed, an unusual quantity of blood is collected on the surface of the brain and other nervous centers, mental processes move more quickly, physical acts become more rapid, and thus is produced that systemic condition usually denominated stimulation. Ere long, the nerve centers may become so engorged with blood, that from pressure and from the poisoned condition of the blood, partial or complete paralysis will supervene.

If this explanation is correct, the excitement has, as its cause, the depressing nature of the alcohol. The alcohol has produced the excitement, or stimulation, through a depressing act. Is it not appropriately styled a depressant, rather than a stimulant? It may be that a portion of the excitement is produced by the irritating force of alcohol upon all the tissues with which it comes in contact.

It is a clearly demonstrated fact that a portion, at least, of the alcohol injected circulates through the system, and is excreted without undergoing any change. The experiments of Dr. J. J. Ridge have shown that, under a very moderate dose of alcohol, keenness of vision is lessened, hearing power is diminished, and the sense of touch becomes less acute. Dr. Brinton says: "Even a moderate dose of beer, or wine, diminishes the maximum weight which a person can lift to something below his teetotal standard." Dr. T. K. Chambers, in defining a stimulant, says: "It is usually held to be something which spurs on an animal operated upon to more vigorous performance of its duties. It seems doubtful if, on the healthy nervous system, this is ever the effect of alcohol, even in the most moderate dose, and for the shortest period of time." Dr. Anstie regarded alcohol as a stimulant in small doses, and in large doses a narcotic. It is the belief of some eminent physicians that, under no circumstances, does alcohol produce the effect of stimulation. Dr. Edmunds declares: "The so-called stimulating effects of alcohol are really only finer shades of that same narcotic influence which produces general stupefaction and universal paralysis when the agent is given in large doses." Alcohol has often been likened to a spur, which calls forth the strength of the horse, but adds nothing to his powers of endurance; indeed, it sooner or later brings on exhaustion.

In determining whether alcohol shall be called a narcotic or stimulant, is it not better to have regard to its inherent quality of narcotism, rather than to a doubtful stimulating effect which it may produce? My

belief is that its mode of action is always that of a narcotic, and hence, I prefer to call it a narcotic.

Alcohol has been called an antispasmodic. If it possesses this characteristic, it doubtless arises from its narcotic property, whereby it quiets the nervous centers.

Alcohol is an antiseptic. It prevents the combination of oxygen with dead animal substances, and thus acts antiseptically. Doubtless it acts in the same way in the living body. Experiments of Dr. J. J. Ridge show that, under some circumstances, alcohol acts as a septic agent. Very small percentages of alcohol favor the development of bacteria. In simple water, and in water containing one per cent. of alcohol, bacteria multiplied at about the same rate. More than one per cent. retarded, while less than one per cent. favored their growth. One quarter to one-half per cent. was the quantity most favorable to their development. His experiments were tried with infusion of hay. The conclusion of this experimenter was, "that the alcohol must act as a stimulant to the vital reproductive functions of these minute organisms, which, undoubtedly, contain a certain special kind of protoplasm." His experiments on cress-seed, and the young cress-plant, declared that no quantity, however small, stimulated the growth of their protoplasm. In the experimenter's own words: "We may say, then, that alcohol injures constructive protoplasm and stimulates destructive protoplasm. In other words, alcohol hinders construction and promotes destruction."

As an anesthetic, alcohol has been effectively used in combination with other anesthetics.

Alcohol is an antipyretic. It reduces bodily temperature, as has many times been proven by the experiments of eminent physiologists and chemists. No one has done more faithful work in this direction than Dr. B. W. Richardson. His experiments covered a period of three years, and were made upon both man and the lower animals. According to his observations, the first effect of alcohol was a rise of external temperature, sometimes to ½° F., and, in the confirmed inebriate, to 1½° F. This effect is, in fact, a process of cooling. An unusual quantity of blood is thrown to the external surface, through the paralysis of the vaso-motor nerves, and thus is started an unwonted rapidity of radiation of heat. In a brief period of time—say in half an hour—the temperature commenced to fall, and continued to decline for two or three hours, generally reaching 2½° or 3° F., and sometimes 8° below the normal point. The amount of time necessary for the return of the full amount of natural heat was generally seven or eight hours, and sometimes a period of

three days. The quantity of alcohol taken to produce these effects was sufficient to accomplish complete intoxication. It was observed that the extent of reduction of temperature was in direct proportion to the quantity of alcohol taken. The experiments of Dr. N. S. Davis, which commenced in 1850, arrived at results almost identical with those above mentioned. Dr. Franz Riegel has shown that even moderate doses of alcohol reduce the temperature some tenths of a degree. Drs. Binz and W. A. Hammond have also shown that there is a lowering of bodily temperature while under the influence of alcohol. A case of alcoholic poisoning is reported in the London *Lancet* of March, 1878, in which the temperature fell to 92°. Doubtless it is the prevailing belief to-day, among those who have studied the influence of alcohol on the human system, that it is a positive antipyretic.

In estimating the value of alcohol as a medicine, it is necessary to take into account its injurious, as well as its beneficial influence. Alcohol exerts a deleterious influence on the blood. Upon the coagulating quality of the blood, it acts in one of two ways: either fixing the water of the blood with its fibrin, and thus diminishing its coagulating power, or extracting the water, and thus causing coagulation too easily. It changes the form and lessens the size of the red corpuscles, thus diminishing their capacity to absorb oxygen and carbonic acid. It also dissolves both the white and red corpuscles. The corpuscles adhere together, and form masses, instead of retaining their normal separation. Blood, under alcoholic influence, contains an abnormally large quantity of fat. One-half per cent. of alcohol in the blood is sufficient to produce profound intoxication. These conclusions are results of experiments and observations made by Richardson, Virchow, Boecker, Dogiel, and others.

The experiments of Dr. Parkes and Count Wallowicz, made for determining the influence of alcohol upon the heart and circulation, showed that eight ounces of alcohol given in twenty-four hours, increased the number of heart-beats one-fifth during that time, and burdened the heart with an amount of extra work, equivalent to lifting twenty-four tons one foot. A few days subsequent to leaving off the alcohol, the heart showed an unusual feebleness. Dr. N. S. Davis has shown, by *post mortem* examination, that the heart strongly influenced by alcohol is subject to fatty degeneration. Dogiel observed that alcohol at first accelerated, and then retarded the heart-beat; that the greatest retardation of the circulation occurred in the stage of alcoholic narcotism.

On the nervous system, alcohol acts as a paralyzer. At first it excites, and then blunts the sensory nerves, so that impressions are

ess keenly felt, and are conveyed with less rapidity and accuracy. Dr. Howie declares that a message which can ordinarily be sent from the hand to the brain in .1904 of a second, required .299 of a second to pass over the same route after two glasses of hock had been taken.

For the brain, alcohol seems to have a special affinity. Taken into the stomach, it is soon circulating through the brain as alcohol. If, after the injection of alcohol, the amount obtained from a given weight of blood is represented by 100, the amount obtained from brain tissue is represented by 134. The brain becomes congested, its membranes thickened, its substance hardened, and its functions crippled, or destroyed. Other important organs of the body are deleteriously affected by alcohol. How common is the cirrhotic, or whiskey liver! How frequent that degeneration of kidneys which has its foundation in the use of alcohol! Dr. W. A. Hammond declares that more than a score of nervous diseases are the direct result of alcoholic drinks, besides various forms of insanity. Alcoholic paralysis finds an acknowledged place in our catalogue of diseases. Alcoholic phthisis is claiming recognition as one of the forms of that disease. Hardly an organ or tissue of the habitual drinker of alcoholics escapes the deteriorating influence of alcohol.

Let us turn our attention to the applicability, or the reverse, of alcohol in certain diseased conditions, for which it has been recommended and used, keeping in mind its characteristics and its harmful influences, already mentioned.

In sudden feebleness of the circulation, whether due to heart failure, nervous shock, or some other cause, the exciting power of alcohol in small and frequently repeated doses has a utility. Thus used, it does not appear to have any advantage over other special excitants, such as heat, ammonia, ginger, capsicum, camphor, while its disadvantages are serious.

For indigestion and difficulty of digestion, alcohol has been largely used by the laity and the profession. The fact that alcohol coagulates the pepsine of the gastric juice, hardens the foods, especially albumin, irritates the mucous membrane of the stomach, and degenerates the blood from which the digestive juices are derived, is a contra-indication for its use in these conditions. Alcohol may arouse the flagging energies of the digestive organs for a brief period, and thus increase the quantity of digestive juices, but there is a limit to the powers of nature, and ere long there is only a feeble response to the demands thus made. If the digestive powers are exhausted, how much more reasonable to give them a rest and aid them by the use of partially digested foods, than in their exhausted condition to spur them on to

increased work. The day has come when the treatment of disease by nutrients is having, and should have, large consideration by the medical profession. Alcohol being a narcotic and anesthetic, has been found useful in all diseased conditions accompanied by pain, but it is neither so certain nor so prompt in its utility of allaying pain as opium, the ethers, and chloroforms.

Its antipyretic property gives alcohol a utility in all diseased conditions which demand a reduction of temperature. To be of any special service as an antipyretic, it must be used in large doses, and hence it is quite probable that it may be more harmful than useful. At all events we have other antipyretics at our command which are devoid of the injurious qualities of alcohol, and are far superior as antipyretics, such as cold bathing, quinine, antipyrin, antifebrin, and exalgin.

As an antiseptic, alcohol has been used both locally and internally in diphtheria, scarlet fever, and in other diseased conditions calling for antiseptic treatment, but it cannot be regarded as comparable in antiseptic power to our modern antiseptics.

Perhaps in no one disease has alcohol been more frequently and more largely used than in typhoid fever, both for its antipyretic and its alleged stimulating powers. Since the days of Dr. Bentley Todd, who was the champion of the use of alcohol in this fever, its treatment has undergone a marked change. Dr. W. T. Gairdner, physician to the Glasgow Fever Hospital, gives statistics of 595 cases of typhus fever—doubtless referring to the fever now generally denominated typhoid—treated by himself in the year 1863. The death-rate was 11.9 per cent. The death-rate of 1861 and 1862, when Dr. Gairdner was not in attendance, was 17½ per cent. The average mortality from this disease at that time in English hospitals was a little less than 18 per cent. Under Dr. Gairdner's superintendence the average amount of alcoholic spirits was 2½ ounces, and of wine 2¼ ounces, while in the two previous years it was six ounces of spirits and 34 ounces of wine. The mortality of Dr. Todd was twenty-five per cent. The death-rate from typhoid fever in St. George's Hospital, London, from 1877 to 1883, under alcoholic treatment, was twenty-four per cent.

Dr. A. L. Loomis, of New York, who has had an extensive experience with typhoid fever, excludes alcoholics entirely in the milder cases, and in all cases uses them with great care and watchfulness. His method of treatment to-day is in marked contrast with that of twenty-five years ago, when he relied upon whiskey to the amount of from one pint to three pints daily.

All cases of typhoid fever under my care for the last several years, have been treated without alcohol and with very satisfactory results.

Until within a comparatively recent date in the treatment of delirium tremens, the almost uniform medical belief has strongly and tenaciously favored the use of alcoholics. The day has passed for holding a physician liable to censure who advocates a total disuse of alcohol in this disease. For many years it has been my practice to at once and utterly discard it, in even the severest cases, substituting therefor some form of bromide, and proper alimentation. Remove the alcoholic poison from the system by evacuants as quickly as possible and forbid its entrance again! A continuation of the poison prolongs the poisoned condition, and lays the foundation for future disease.

The fact that alcohol paralyzes the vaso-motor nerves, and thus lessens the contractile force of the small bloodvessels, contra-indicates its use in cases of hemorrhage; if not entirely contra-indicated the indication is that it should be used with extreme caution. If faintness from loss of blood demands stimulation, use hot milk or other nutrients easily assimilated. If it is true that alcohol diminishes the coagulating property of the blood, great hesitation should be used in administering it previous to surgical operations, from which severe hemorrhage is anticipated.

In obstetrical cases, demanding a stimulation of the uterus, alcohol has been a favorite remedy. Its utility for this purpose is greatly doubted. I have ceased to use it with this object in view, having frequently witnessed a directly opposite effect from its employment. Instead of exciting uterine contraction, it has allayed it.

Criticism, similar to the above, might be made concerning the use of alcohol in a vast number of diseased conditions. Testimony, from the experience of many eminent physicians, and from carefully prepared statistics, could be adduced, to show the insignificant value of alcohol as a therapeutic agent.

The statistics of the London Temperance Hospital for ten and a half years, show a mortality of 5.05 per cent. The typhoid fever cases had a mortality of less than twelve per cent. The surgical cases numbered 401, and gave a mortality of two per cent. Only three deaths occurred from the 103 major operations. Surely, this is not a bad exhibit for a hospital in the heart of London!

The British Medical Temperance Association has for one of its objects, "to promote investigation as to the action of alcohol in health and disease." Its second annual report gives statistics, gathered from various parts of England, of cases treated without alcohol. The cases presented numbered 1,920, the death-rate of which was 4.06 per cent.

My study of this subject justifies me in formulating the following propositions:

1. Grave responsibility rests upon the medical profession in the use of alcohol as a medicine, on account of its deleterious influence upon the system, and the liability of the patient to contract the habit of using it as a beverage.

2. Alcohol being an acrid narcotic poison, the bottle containing it should be labeled "Poison," as a reminder of this characteristic, and a warning to handle it with care.

3. Alcohol, containing none of the compounds which enter into the construction of the tissues, cannot properly be termed a tissue-forming food.

4. The evidence in favor of the existence of a heat-generating quality in alcohol is not sufficient to warrant the belief that it is a heat-producing food.

5. As a narcotic and anesthetic, alcohol has a limited sphere of adaptation, and is much less valuable than several other narcotics and anesthetics.

6. The stimulating effect of alcohol may be best secured by small doses frequently repeated.

7. From the fact that its stimulating effect results from its paralytic action, alcohol is more properly called a depressant than a stimulant.

8. As an antispasmodic and antiseptic, it may be superseded by other remedies, without detriment to the patient.

9. Although alcohol is a positive antipyretic, and, therefore, useful in the reduction of bodily temperature, it is neither so prompt nor so effective as several other antipyretics.

10. In cases requiring a remedy which will rapidly evaporate, alcohol is useful as an external application.

11. So easy is the acquirement of the alcoholic habit, and so ruinous its consequences to body, mind, and spirit, that extreme caution should be exercised in its use in all cases, and its administration stopped as soon as the desired effect has been secured.

12. Alcohol, as a medicine, should be reserved for emergencies, unusual conditions, and circumstances in which a more reliable and less injurious remedy cannot be obtained.

13. Adulterations of alcoholics is so extensive and so pernicious, and their different preparations so variable in the amount of alcohol they contain, that it is best to demand pure alcohol of a definite strength in medical prescriptions.

14. In the prescription of alcohol, the same care as to exactness of dosage and times of administration should be exercised, as is used in prescribing any other powerful medicine.

15. When intended to act therapeutically, alcoholics should not be prescribed as a beverage and taken *ad libitum*.

16. The fact that methyl alcohol passes very rapidly into and out of the system, is an argument in favor of its more general use for internal administration.

17. So deleterious are the effects of alcohol upon the human body, it is eminently proper to inquire whether its harmfulness does not overbalance its helpfulness, and whether it could not be dropped from our list of therapeutic agents without any serious injury to our patients.

118 Plymouth Avenue.

CONGENITAL UMBILICAL HERNIA.[1]

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In early fetal life, the abdominal wall is widely open in front, and through this opening the greater part of the abdominal viscera pass. Toward the end of the third month this cleft closes, the abdominal organs enter the abdomen, and there remains only an orifice, through which the umbilical vessels pass. Not rarely a knuckle of intestine escapes the retraction of the viscera and remains outside, forming a tumor, covered with amniotic membrane, and known as congenital umbilical hernia. It thus differs essentially from other hernias, in that its contents are organs *which have never been within the abdominal cavity*, and not organs which have been in the abdomen and have escaped from the same, as in the many forms of acquired hernias, occurring at all ages, from the new-born to the aged.

The umbilical cord contains, in addition to the bloodvessels, two other structures, viz., the urachus, a continuation of the bladder and springing from the allantois; and the ductus vitello-intestinalis, a prolongation of the intestine, and arising from the vesiculo-umbilicalis. Outside the abdomen of the six weeks' embryo, normally, are found the most distal coils of the ileum, a part of the cecum, and the vitelline duct. About the tenth week, this latter is torn off, and the intestines, being freed, enter the abdominal cavity. The cleft in which they lay closes. If this separation does not occur, or there is no pulling upon the duct, the intestines will remain outside the abdomen and in the cord. The umbilical opening may become still

1. Read before the Buffalo Pathological Society, August 23, 1889.

greater by the intestines being drawn further out. A time comes, however, when a tendency to contraction is manifested at the opening, as shown by the constriction of resisting structures, like the liver, the part appearing like a club-shaped prolongation of the organ.

The contents of congenital umbilical hernia vary with its size. The smaller contain, perhaps, only a knuckle of small intestine; the larger may have any or all the abdominal organs within them.

As to the etiology, two things are to be noted: on the one hand, a more or less imperfect abdominal wall, and, on the other, viscera, which are outside the abdomen. Authors differ in attaching greater importance to the one than to the other, and, hence, two theories have arisen. One claims this hernia to be due to an arrest of development, the other regards this arrest as consecutive to an adhesive peritonitis in the part of the peritoneum normally enclosed in the cord. It is easy to see how such adhesions could oppose the entrance of the viscera into the abdomen, and prevent obliteration of the umbilical ring. Peritonitis, however, is often wanting, and may occur after the passage inwards of the viscera. A third theory (Scarpa's) has been advanced. This supposes traction on the cord, in intra-uterine life, to be the cause of this hernia. The only case observed by the writer in his own practice lends color to this theory. The cord, not of unusual length, was wound round the child's neck thrice, and caused marked traction upon the umbilicus. Within the protrusion, a small portion of an intestinal loop could be plainly seen. The child recovered from this, dying some months later of entero-colitis. However we may regard these theories concerning the etiology of the affection under consideration, one thing is to be remembered. It is, that, at the time of birth, the umbilical ring is not yet obliterated, and a communication exists between the cavities of the cord and abdomen. Therefore, slight causes, falling down of the mother, blows on the abdomen, manipulations during pressure upon the child's body in difficult confinements, first respiratory efforts and cries, acting singly or together, can cause protrusion of the viscera. Such hernias, however, although called congenital, have anatomical characters and a mode of development quite different from those of true congenital hernias, since, as before stated, the viscera in the latter cases have never been within the abdominal cavity; whereas, in the former, they have once entered and again appeared outside the abdomen.

The coverings of a congenital umbilical hernia are: (1) the elongated skin of the abdomen continued into thin transparent amnion; (2) a thin fibrous prolongation of the connective tissue of the linea alba, occurring at the base of the hernia, and continued into Wharton's

jelly; (3) peritoneal prolongation from the anterior abdominal wall; a prolongation of the sac has been noted without coincident rupture (Kleb's) suggesting that when the intestine slips into the abdomen, the peritoneum remains in a way analogous to the processus vaginalis in inguinal hernia. Growth of the body draws the former into the abdomen, while the latter becomes obliterated in its original position. Adhesions between the sac and its contents are common.

Congenital umbilical hernia appears usually as a conical tumor, base to the abdominal wall. Smaller hernias are globular. The external surface is smooth and shiny, the contents of the sac being plainly visible through its transparent walls. The superior semi-circumference only, however, is transparent, the inferior being opaque. The base and remaining portion are separated by a very thick, reddish border which deepens, becoming a furrow as the cord comes nearer falling off. The volume is increased by cries, respiratory and other movements of the child, and the greater the volume the easier its reduction.

Large hernias are easily diagnosticated. Small ones, containing only a knuckle of intestine, require close examination. It is quite probable that ligatures have included intestine which has never been perceived when symptoms of strangulation and death supervene. Fecal fistula may ensue with results dependent upon the portion of intestines involved. Obstetricians should examine carefully every cord before ligation.

The prognosis is obviously bad, over fifty per cent. dying from this affection. Gangrene and peritonitis are the common causes of death. Sometimes hepatic hemorrhage or phlebitis of the umbilical vein is to blame.

Because this hernia occurs once in 2,000 children, and because cases left to nature are so often fatal, radical operation is replacing older methods. Many successful cases are now on record and the list is constantly growing. Kocher, in his masterly essay, "Hernien im Kindesalter," to which the writer is largely indebted, says in this connection:

> In reading through the newest handbooks upon children's diseases, one is easily convinced that individual experiences have exercised a far too unfavorable judgment upon the prognosis of umbilical hernias. Certain authors speak in such a way that the reader must necessarily suppose that in a case of this kind, he has nothing else to do than look on and shake his head. It is on this account to be emphasized that umbilical hernias in their worst forms and complications have shown recoveries, and that the physician must charge himself with a great fault of omission in every case where he has permitted a single one of the very exact indications to go unfulfilled.

Small and easily returnable hernias are treated by reduction, and retaining them then with plaster as usually done in the acquired forms occurring in the new-born. If irreducible, an antiseptic bandage applied until the cord separates will do better than using much force. Expectant treatment is commendable, because it has given excellent results and can always be applied. Herniotomy is applicable in only two classes of cases, according to Kocher; those in which strangulation has occurred, and those which are pear-shaped with the small end toward the abdominal wall; these latter contain only intestine and are very prone to strangulate.

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THE APPLICATION AND ADVANTAGES OF CELLULOID-RING PESSARIES, AS MADE BY THE RHENISH RUBBER AND CELLULOID FACTORY, MANNHEIM.

By Dr. BERNHARD SIGMUND SCHULTZE, Jena, Germany.

IT IS a fact that at the present time much dexterity is required in the selection of a suitable pessary out of a number ready-made to shape. The position of the uterus has been commented on by Marion Sims, in his "Clinical Notes on Uterine Surgery," London, 1866. He compares the process with that of a dentist striving to fit every patient with the same plate.

The individual differences in every vagina, and the mechanical varieties of pathological conditions which call for the use of a pessary, are in fact so numerous, that it is but just that every case should have its own special pessary.

Marion Sims made his pessaries out of tin, to which was added some lead. Following the example of Marion Sims, I caused some soft copper-wire pessaries with soft-rubber coating to be made—which have found wide application. The tin, like the copper-wire pessaries, may be moulded into any form to suit the conditions of each individual case. A certain skill is necessary, however, to ascertain the wants of each case, and to shape the pessary accordingly.

Better than the tin and wire-rubber rings for vaginal pessaries, are the celluloid rings,—made after my designs by the Rhenish rubber and celluloid factory, in Mannheim (Germany). Placed in hot water, they become pliable, and when once moulded and cooled, retain their shape; they are much lighter than either the tin or wire rings, are more smooth than the wire pessaries and remain so, are not acted on

by the secretions of the vagina or uterus. Celluloid pessaries do not irritate the vaginal mucous membrane, do not cause any secretion and no bad odor, provided that the uterus has been placed in its normal position beforehand, that the indications for the use of a pessary are present, that the correct size of the rings has been chosen, and that the ring has been moulded to adapt itself to the special case.

Celluloid rings combine the advantages of tin and wire-rubber pessaries in their *adaptibility to every individual case*, with those of hard rubber pessaries in the *durability and perpetual smoothness of their surface.*

To mould the celluloid rings, they must be placed in boiling water; after two or three minutes they are sufficiently pliable to assume any form, and are then placed in cold water where they become firm and rigid.

Retroflexion, retroversion, and prolapse of the uterus, are the displacements amenable to treatment with these pessaries.

It is not simply the introduction of a pessary which corrects the position of the uterus; no pessary is capable of doing this. In all cases it is necessary to first place the uterus in its normal position; if retroflected, it should be brought anteriorly. This is done most satisfactorily by manipulation with one hand in the vagina and the other on the abdomen, care being taken to have the bladder empty. The pessary may then be introduced with a good chance of success. It fulfills the office of retaining the uterus in situ, without interfering with any of its normal movements.

The pessaries which have proven most successful in correcting retroflexion and prolapse are the figure 8 form, the sled form, the Hodge, and Gaillard Thomas's modification of the Hodge form.

In the great majority of cases of retroflexion, the figure 8 form has proven most successful. With simultaneous prolapse of the anterior vaginal wall, the sled form is often more successful. In cases of long and rigid vaginas, the Hodge form is preferable; in very long and flaccid vaginas, with relaxation of the posterior wall, the Thomas pessary renders the best service. The figure 8 form and Hodge pessary, with many modifications are the ones most employed by me.

The celluloid rings may be moulded to any form of vaginal pessary the physician may prefer.

The pessary must not protrude outside the vagina; the consequent entrance of air causes vaginitis and endometritis, with their well-known disturbances.

Normal, or nearly normal, firmness and elasticity of the perineum are requisites for the successful operation of a pessary. Where the

perineum has been lacerated, or become flaccid, an operation may, perhaps, be necessary to restore it to its former condition.

For more detailed descriptions on the use of pessaries, and displacements of the uterus, see my paper on "Zur Klarstellung der Indicationen für Behandlung der Ante—und Retroversionen und Flexionen der Gebärmutter. Sammlung Klinischer Vorträge von Volkmann No. 176. Leipzig, Breitkopf u. Härtel, 1879," and in "Pathologie und Therapie der Lageveränderungen der Gebärmutter, Berlin, Hirschwald, 1881;" also, "Traité des Dèviations Utérines," Paris, Octave Doin, 1884; and in "The Pathology and Treatment of Displacements of the Uterus," London, H. K. Lewis, 1888.

2 SELLIERSTRASSE.

Society Proceedings.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Reported by W. H. BERGTOLD, M. D., Secretary.

REGULAR meeting, held Tuesday, December 3d, at 8.30 P. M., in the Library of the Polytechnic Institute, No. 9 West Mohawk street.

The President, Dr. A. A. HUBBELL, in the chair.

Dr. CHARLES E. CONGDON was proposed for membership.

Dr. HERMAN MYNTER presented a case of arthrectomy of the knee.

The patient, a boy about ten years old, was first seen on June 15, 1889. He gave a history of having been healthy until about April 15th, when he was suddenly taken with severe pains in the right knee, fever, etc. He had been in bed up to June 15th, was emaciated, had an evening rise of temperature; there was atrophy of the thigh and calf, constant pain, and much lateral motion. The knee was a typical case of so-called white swelling. At the operation it was admitted by those present that the case was hopeless, and that it was useless to try to save the leg. Through the usual transverse incision, Dr. Mynter was able to determine that the trouble had probably started as a central necrosis of the epiphysis; that the whole external condyle was destroyed, and that there was a large bone abscess, the lower end of the femur containing a sequestrum. As much of the joint capsule as possible was removed, together with the patella, and all involved bone was scraped out. The leg was dressed to get Schede's aseptic blood-clot, and immobilized by a plaster-of-Paris bandage dressing.

After seven weeks, during which time there had been no rise of temperature, the primary dressing was removed. Perfect union by first intention was found. The boy has since continued to improve, feels well, and walks with ease. There is a tendency, however, to some *genu valgum*, and Dr. Mynter suggested that this might be due to the growth of the remaining internal epiphyseal cartilage.

DISCUSSION.

Dr. HAYD thought Dr. Mynter's explanation of the *genu valgum* condition was not a good one, for he did not believe that sufficient growth could occur in six months to produce this condition. It was, in his opinion, caused by the removal of the external condyle.

Dr. HOWELL thought that the idea of splintering the leg, in its present condition, was a good one. This would keep the leg straight until the soft growing structures had time to become firm by calcification.

Dr. TREMAINE believed that there is always, normally, a tendency to overgrowth of the internal condyle, and that this fact, together with the removal of the external condyle, was ample and sufficient explanation of the present condition. If necessary, a MacEwen's operation could be done later, to correct the deformity. The present case was a highly successful one, and reflected much credit on the operator.

Dr. M. B. FOLWELL, having been called out of town, was unable to present his paper.

Dr. S. Y. HOWELL then read on The Etiology and Relation of Chorea to Other Diseases, and The Pathology of Chorea; and was followed by Dr. H. D. INGRAHAM, who read on The Symptoms, Prognosis, and Treatment of Chorea.

DISCUSSION.

Dr. J. W. PUTNAM—Chorea is liable to be undiagnosticated, and, on the other hand, often stated to be present when not. We frequently see children who are brought for treatment, with the idea that they have chorea. They go through a few motions, as raising the shoulders, the corners of the mouth, or moving the scalp. This is *habit spasm*, the so-called *false chorea*. With it, we can always tell what movement will occur; whereas, in *true chorea*, we can never predict what the next motion may be. Habit spasm is purely imitative. Then there is the chorea which is of purely hysterical origin, and which is quite distinct from *true Sydenham* chorea. In it we get anesthesia of the eye, the pharynx, or the cutaneous surfaces, which never occur in true chorea. Dr. Putnam here mentioned a case which he had seen at the General Hospital. It was that of a young woman, who, to all appearances, was suffering from genuine chorea. On examination, it was discovered that there existed a total anesthesia of the conjunctiva. This patient was put on a treatment suitable for hysteria, as cold douches, wet sack, etc., and made a prompt recovery. Most cases of true chorea are curable. About fifty per cent.

are due to rheumatism, and there is also a class in which there is a marked neuropathic heredity, especially those of alcoholic parentage.

Chorea from fright is, in Dr. Putnam's opinion, not the true malady. In these cases, we always get a history of night-walking, night-terrors, personal irritability, etc., indicative of hysteria. The pathology of Sydenham chorea is unknown, and the changes described by the older writers certainly cannot exist in it, for they are of a nature prohibiting a recovery in the short time in which true chorea resolves itself. He believes in the relation of chorea with rheumatism, anemia, chlorosis, cerebral irritation, and reflex troubles, as those, according to Dr. Stevens's theory of irregular action of the occular muscles, or eye strains, though these cases are exceedingly rare. Chorea with paralysis, or "limp chorea," is not identical with vulgar chorea. In the latter, we find the muscles normal, while in limp chorea there can always be elicited on examination electrically, the usual degeneration reactions. These cases are very uncommon, and require a totally different treatment, calling at once for the exhibition of strychnine, electricity, etc. The chorea of the old has a bad prognosis, and the same may be said of that form seen in pregnancy. Our treatment must always be fitted to the constitution and condition of the patient, and never by any "rule of thumb."

Dr. Grosvenor spoke of the recent sleeping treatment for chorea, where the patient is made to sleep from twelve to sixteen hours out of every twenty-four. The use of antipyrin has also been highly extolled. Personally, he has used in his practice arsenic and iron.

Dr. Snow spoke of the interest he had always felt in chorea and more particularly in the close and rather mysterious relation between it and rheumatism. In the last fourteen months he had seen nine cases of chorea. Seven of these cases were girls, and two boys,—about the usual proportion between the sexes. In three of these cases the exciting cause appeared to be fright; all of these patients were of the female sex. Six of these cases (sixty-six per cent.) presented a distinct history of rheumatism, three having suffered from severe attacks of the acute articular form. Cardiac lesions were found in five cases, four having systolic murmurs at the apex, and one an aortic direct murmur. One boy suffered from hypertrophy and dilatation, and general dropsy from cardiac weakness. Another, a girl of eleven, had had two attacks of chorea. During the second, an attack of acute articular rheumatism occurred, which was complicated by pericarditis. Chorea was a disease in which relapses were exceedingly common, four of his patients (girls) having a history of more than one attack. Two cases had had two attacks, one four attacks, and another seven. Dr. Snow

spoke of the occurrence of rheumatic nodules in chorea, a somewhat unfrequent phase of the rheumatic diathesis, in this country. Alluding to the endocarditis of chorea, he said that all available evidence went to prove that the endocarditis of acute articular rheumatism and that of chorea were identical in respect to pathological changes; that the beaded aspect of the mitral valve in the endocarditis of chorea was merely the primary stage of an endocarditis, and that precisely similar changes were found in rheumatic endocarditis. The vegetations found in valvular inflammations consisted of two elements. First, cell proliferation in the substance of the valve, causing a series of bead-like elevations; and second, a deposition of fibrin on the uneven surface of the valve. Dr. Snow then spoke of the use of arsenic hypodermically, as employed in Vienna, from which he had seen good results.

Dr. ABBOTT was much interested in Stevens's researches on the combination of occular muscular insufficiency, and refractive errors. He believed that not enough attention has been given to Ranney's statement, that eighty per cent. of choreic patients have some occular trouble. The existence of this occular trouble leaves, to say the least, the system in a more susceptible condition. If a case of chorea does not yield readily to treatment, we ought to have the eyes examined.

Dr. F. W. HINKEL said that there are cases of chorea, or choreiform movements, which can be clearly ascribed to nasal or pharyngeal difficulties, as polypi or deflected septa, and are purely reflex in nature. He mentioned a case in which every time the existing nasal hypertrophy was touched certain choreiform movements ensued, but upon removal of the over-growth, all reflex trouble disappeared. Before cocaine was discovered he had often noticed, when operating upon the nose or throat, that some patients exhibited characteristic rolling up of the eyes, and twitching and beating of the feet. Jacobi has observed peculiar muscular twitchings in children, in connection with the existence of naso-pharyngeal adenoid tissue, and which are cured by the removal of the new growths.

Dr. FALK—One the earliest symptoms of chorea is twitching of the eyelids and the alæ of the nose, and which may be so slight as to be easily overlooked. The pupils may be dilated and insensible to light.

The essayists for the January 7th meeting announced are: Dr. Chas. G. Stockton, subject, Some Phases of Glycosuria; and Dr. H. R. Hopkins, subject, Local Treatment of Some of the Local Affections of the Lungs.

Abstracts.

ON THE ETIOLOGY OF RECURRING FACIAL NEURALGIA AFTER NEURECTOMY OF ONE OF THE AFFECTED BRANCHES OF THE FIFTH NERVE.

By A. OBALINSKI, in Cracow.

Abstract from *Wiener Klin. Wochensch., No. 41, 1889.*

INASMUCH as the results of neurectomy, especially of the branches of the fifth nerve, are so uncertain, and not lasting, the applied methods of operation so little established, and the action of the parts of the body governed by these nerves still so varied, the author believes that every article, throwing light upon this obscure subject, is welcome, and therefore submits the report of the following case:

Joseph Szewczky, peasant, about 62 years old, came under treatment in January, 1881, for an intolerable facial neuralgia, the result of the kick of a horse, twenty years previously. In the beginning, the right cheek and upper lip were affected, and the trouble intensified by sensitive scars. Latterly, the attacks came so often and severely that the patient was desirous of undergoing anything for relief.

On January 26, 1881, neurectomy (*a la* Wagner) of the right infraorbital nerve was made, and a piece, one centimeter long, removed from the canal. In one month, the patient was discharged, free from neuralgic attacks during this time, and the wound entirely healed, with scarcely perceptible scar.

On October 23, 1882, twenty-one months after operation, he returned, saying that for one full year he had been free from pain, but that, since this time, the attacks were becoming more severe and often each month.

On July 2, 1883, two and one-half years after the operation, he came again to the Surgical clinic, complaining of very intense neuralgic attacks, which were quite as severe as before operation. The scar was opened, and the thermo-cautery applied to the nerve stump. Relief lasted only a very short time, and soon the attacks reached their former intensity. Mikulicz, the colleague of Obalinski, then resected the remainder of the nerve, up to the foramen rotundum, by means of temporary resection of the superior maxilla (Langenbeck's method). The wound healed *per primam*, and the pain was completely abolished.

This condition, likewise, lasted one year, when the pain began to slowly reappear, and in the third year after this operation had reached the previous degree of intensity. In the Summer of 1887, Docent Dr. Trzebicky operated after the method of Lücke-Braun-Lossen, the coronoid process having been resected, to better reach the fissure. Soon the pain reappeared in its greatest intensity, with the additional misfortune of anchylosis of the right inferior maxillary articulation, so that the patient could scarcely open his mouth and receive sufficient nourishment. (This is the second case in which the author has seen anchylosis occur, and which, in his opinion, speaks strongly against this method of operating.)

In June, 1889, two years after the last, and eight and one-half years after the first operation, the patient, tormented with frightful attacks, came again to Obalinski, whose examination showed the present condition to be as follows: Pain is limited to the region of the right cheek and the right half of the upper lip, is started up by pressure over the right infraorbital foramen and by touching the upper lip on the right side, and is so great that the patient is willing to undergo the most serious operation for the sake of relief. Pressure over the inferior maxilla, and over the right superior border of the orbit, brings on no attacks of pain. The right superior maxillary region shows a complete system of young scars, which unite with older ones on the upper lip. The lower jaw was immovable, on which account the patient was nourished with fluids, although small pieces of solid food could pass on the left side into the mouth, through the place of an absent tooth.

Guided by previous experience, the author determined to open up the foramen rotundum, remove its bony edge, and extirpate the remaining part of the second branch, up to the Gasserian ganglion, and to do this by temporarily resecting the superior maxilla, removing some of the zygoma at the same time, to gain more room.

On June 6, 1889, Obalinski proceeded to operate after the method of Langenbeck, but was compelled to give it up, because the maxilla could not be raised, owing, probably, to callous formation resulting from the previous similar operation. He, therefore, removed the anchylosis of the lower jaw, by a method previously described (*Wiener Med. Presse*, Nr. 9, 1889). In the beginning, he had intended to leave the joint in place, but thinking that, from the nature of wound cavity left, copious suppuration and necrosis of the joint might occur, he removed the same, together with a piece of the nerve several centimeters long, making a larger but more manageable wound.

The lower jaw could be depressed, and the mouth sufficiently opened, and just in time, for the blood from the incompleted resection of the superior maxilla began to collect in the throat, and threaten the patient with suffocation.

The following morning, the patient was completely free from pain, the wound healed pretty rapidly, and the attacks did not recur during the month following, after which the patient was discharged.

The author does not accept the explanation that the pain was caused in consequence of the reflex effect of a large operation, because two years previously an equally large operation did not bring relief, and at any rate such influence would only last for a very short time and not act so radically as in the case under consideration.

Thorough consideration leads the author to explain the fact by the anastomoses between the terminal branches of the second, and those of the nerves lying in the immediate neighborhood. He instances as analogous the case of Nélaton where extirpation of the median nerve did not affect the innervation of the parts supplied by this nerve; also the similar observations of Langier, Richet, Kraussold, Küster and Gzeparowicz, which are explained partly by Letievant's theory of "Motilite Supplee," and, especially in the sensory regions, by anastomoses between the terminal branches of the three great nerve trunks of the upper extremity. (Broca, Richet.)

Beside Nélaton's case, the author can find no other similar case affecting other nerves recorded; notwithstanding that no other regions of the body appears more adapted than that of the face where the entire plexus of the nerve lies by that of another, and where many ganglia connect with the fibers springing from various nerve trunks.

The text-books of anatomy teach us nothing of the direct anastomosis between the second and third branches of the fifth nerve; we know only of an indirect communication between them through the facial nerve; still the above quoted case seems to prove the existence of direct anastomosis. Upon no other supposition can the author explain why the pain should have remained away when the third branch only was resected, the second not having been touched. It must, therefore, be believed that direct communication between both nerves in consequence of previous neurectomies was established, and which, notwithstanding the destroyed conduction in the path of the branches of the second nerve, maintained the terminal fibers of the same, and so contributed to the origin of the recurring attacks.

The article is concluded with the remark that—

> Although this observation at the present time stands alone, it is still capable of throwing some light upon the recurrence of facial neuralgia, and, perhaps, of recommending neurectomy of the neighboring nerve for methodical trial in severe recurring cases.

J. P.

ON THE PHYSIOLOGICAL ACTION OF THALINE.

Translated from *L'Abeille Médicale.*

By A. DAGENAIS, M. D., Buffalo, N. Y.

M. Robin presented to the Academy the résumé of his researches on the physiological action of thaline, showing that its salts have the same actions on the blood as the salt of kairine. Thaline destroys the hemoglobine; it is a poison to the red globules; it diminishes the respiratory capacity of the blood. If a few drops of sulphate of thaline solution are mixed with blood, the red color disappears, the blood takes a brown chocolate color, similar to the changes observed by its mixture with kairine. There is also a destruction, nearly complete, of hemoglobine; the two characteristic raies of hemoglobine disappear, to make room for those of methemoglobine. The fall of temperature which clinicians—Jaksch, of Vienna, in particular,—have obtained in certain pyrexia, following the use of thaline salts, was the result of the destruction of the hemoglobine of the blood. The modifications that M. Robin has remarked in the organic exchanges following the thalinic medication are attributed to the same cause, to

the disposition of the greatest part of vehicles intended to carry oxygen to the tissues.

M. Browardel said that he was one of the first to warn the profession against the use of the salts of thaline. This communication from M. Robin confirms what he (Browardel) said before.

Statistical Report of Operations Performed in two Years at the Saint Louis—May, 1887, to May, 1889—by M. Le Dr. Lucas-Championnière Surgeon to Hôpital Saint Louis.

This report, received from the author, contains the record of 463 operations (not including laparatomies), of which 321 were made upon men without a death, and 142 upon women with two deaths, not attributable, however, to the operation. One of these was a case of strangulated hernia, the woman being in extremis when admitted; the other died from facial erysipelas after complete recovery from an operation for cancer of the breast. This makes a mortality of 43-100 per cent. for the 463 operations.

The larger operations make up the great part of these statistics, to emphasize which the author makes a separate table of the very largest which show no deaths.

The author says:

All my operations were made in the barracks occupied by small-pox cases for seven years, and *which had been put on fire*, as a good number of our most noted hygienists say. My material is most modest, still I have demonstrated this truth: splendor of means and wealth of antiseptic material signify little, while experience and the faith of the surgeon in the antiseptic method are all.

And further on:

All my operations, laparatomies as well, are made in the same hall, heated by a stove and having neither apparatus for sterilization nor irrigation, nor glass dishes. The operation table is of wood, covered with a hair mattress. The public come in until the place is full, no matter what the operation. Notwithstanding these unfavorable appearances, not only is there an absence of mortality, but, what is infinitely more conclusive, absence of suppuration.

The author then gives a rèsumè of the various operations done, which include almost all the recognized ones. Laparatomies are divided into two classes, those having a mortality and those having none. Those without mortality were operations for detaching adhesions, seven; exploratory laparatomies, three; internal strangulation, one; ovario-salpingitis, fifty-one; hydatid cyst, two; nephrorrhaphies, three; ventro-fixation, four; making a total of seventy one. Those with mortality number fifty-five, eight of which died:

two of these, however, at three and one-half months and forty-nine days respectively after operation. These operations were briefly:

Ovariotomies for *cyst of the ovary*, twenty-eight cases, two deaths, (one case cyst adherent, suppurating, many tappings, infection; the other, dermoid cyst with fetid eczema, secondary infection).

Malignant vegetating tumors, seven cases, one death (from pulmonary congestion).

Ablation of appendages for fibroids, fifteen cases, two deaths; (one on the eighth day, from tetanus, the other, three and one-half months later).

Operations for large fibroids, ablation and hysterectomy, seven cases, three deaths (two from shock) (ablation including all the small pelvis and kidney); the third died forty-nine days afterwards.

The total number of laparatomies is, therefore, 128, with eight deaths, a mortality of 6.62 per cent. Certainly the two years' work here given reflects great credit upon M. Le Dr. Lucas-Championnière, who evidently operated without picking his cases, and under conditions which we should regard as somewhat unfavorable.

J. P.

In Germany, the government has come to the conclusion that there are enough medical colleges in the country, and refuses to allow any more to be organized. Let us take the hint in America.

The suggestion is made that New York might get out of its electric execution dilemma by putting condemned murderers at work as telegraph linemen in New York City.—*Philadelphia Medical and Surgical Reporter.*

A Valuable Remedy.—Gentleman (to village cobbler)—"What's that yellow powder you are taking so constantly, my friend?"

Cobbler—"It's snuff—catarrh snuff."

Gentleman—"Is it any good? I'm troubled somewhat that way myself."

Cobbler (with the air of a man who could say more if he chose)—"Well, I've had catarrh for more'n thirty years, an I've never took nothin' for't but this."—*Epoch.*

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Editorial.

THE FESTAL NUMBER OF HYGIEA.[1]

THE ever-welcome *Hygiea* has just made its appearance in a most remarkable and charming form. It is not, however, the regular monthly number, being in fact a volume of nearly 500 pages. As above, the title-page informs us that it is a "Festal number in reference to the existence of the periodical for fifty years, with six engravings and twenty-eight illustrations in the text."

For beauty of letter-press nothing can be superior, and a glance at its contents shows that no pains have been spared to make the book—for such in fact it is—a valuable addition to a physician's library. It contains in all eighteen contributions by the most learned physicians and chemists of Sweden, several of which are exhaustive monographs on the subjects of which they treat. They are written in various languages evidently with the purpose of reaching those who are unacquainted with the mother-tongue of the writers. We may here, in passing, explain that the Swedish student of medicine is compelled to acquire a fair knowledge of three modern languages at least before he can finish his professional studies, since important scientific works by English, French, and German writers are seldom translated into his own vernacular.

The group of portraits, which faces the title page, are those who have been the editors-in-chief since the first year of the life of the periodical (1839), and it is difficult to find nobler and more intelligent heads anywhere.

The first article is written by Martin Sondén, and is, of course, historical. A brief but comprehensive glance is cast over the history of the medical literature of the Scandinavian nations, particularly that of Sweden, up to the time of the establishment of *Hygiea*. The first

1. Hygiea; Medicinsk och Farmaceutisk Manadsskrift, utgifven af Svenska Läkare Sällskapet; Festband, med Anledning af Tidskriftens Femtioäriga Tillvaro, med. 6 Taflor och 28 Afbilnin, gar i Texten, Stockholm: Samson & Wallin. 1889.

attempts to found periodicals in the service of the healing art took place simultaneously in Stockholm and Gothenburg in 1781. The latter did not survive its first year, while that of the former continued, under various names and vicissitudes, to exist till 1807, when it too expired. In 1783 appeared in Stockholm the first volume ("Tomus Primus") of Acta Medicorum Svecicorum, a somewhat voluminous work containing fifteen articles in Latin. The second volume of this was never written. Many other attempts at periodical medical literature were made, but though some of these were for the time able productions, no actual stability was attained till the foundation of the *Hygiea* in 1839 by members of the Swedish Society of Physicians, whose organ, entitled "Transactions of the Society of Swedish Physicians," was incorporated in it, and has since constituted a part of the publication. Since the establishment of *Hygiea* a large number of periodicals on various subjects more or less related to medicine have made their appearance, some of which have had but a brief existence, while others are still doing excellent work, being most ably conducted.

Among the defunct may be mentioned Dr. Lagberg's *Friend of Health*, a publication which seems to have anticipated the mind-cure. It undertook to show that cold water mingled with spirit (breath, not whiskey) would drive away syphilis, rheumatism, gout, etc., etc., from the body—and yet even Dr. Lagberg had his diploma.

Neither did homeopathy take a scientific root in Sweden, since the only attempt to establish an organ in its interest by one Dr. Liedbeck, who appears to have been something of a crank, began and ended in one year. Its title was, to say the least, most extraordinary: *Instruction in Homeopathy for the Swedish People; Directions for Health and Care of the Sick, Nature-healing and Self-help, Without and With Medicaments in Diseases among Men and Cattle.* The author further remarks: "Liedbeck, a versatile man, with a strong inclination to the *bizarre* as well in word as thought, still believed in his homeopathy. Since his day we certainly have heard homeopathy talked of in our country, but fortunately not within the medical world. It has now-a days become a means of living for spinsters, quacks, unfortunate affairs-men, and other charlatans who live upon the credulity and simplicity of the masses."

In citing these remarks of the author we disclaim any intention to cast odium on the well-informed disciples of Hahnemann of our country, most of whom, fortunately for their patients, practice their profession in a manner little resembling the teachings of their reputed master, our sole purpose being to point out the slight esteem in which his doctrines are held by European scientists.

Among the successful periodicals which are issued in the Scandinavian countries in the interest of medical literature may be mentioned the *Nordisk Medicinskt Archiv*, a quarterly common to Sweden, Norway, Denmark, and Finland, a most ably conducted production, and one of our own valued exchanges. Its editor-in-chief is Dr. Axel Key, Professor of Pathology and Anatomy in Stockholm. His coadjutors are among the ablest contributors to medical literature in the principal seats of learning where the Scandinavian languages are spoken. Three of these live in Helsingfors, Finland; three in Christiania, Norway; three in Copenhagen, Denmark; and the rest are Swedes from Upsala, Lund, and Stockholm. Several other monthly, bi-monthly, and quarterly publications still have a lively existence in Sweden, though a large number of greater or less consequence have expired, but those that are living rest on a true scientific base.

Dr. Sonden closes his sketch with the following words:

The notices we have contributed only touch upon the external outlines of the development of medicine in our country so far as these may be marked by periodical literature. But, however evanescent, faulty and imperfect these notices may be, they still show that *Hygiea*, which made its appearance just at the dawn of a new era, also was an expression of the want of this new era. They also point out that the interval, during which *Hygiea* has lived and worked, in a greater degree than formerly, has been distinguished by earnest work and a many-sided powerful development. Who will deny that this augurs good for the future of the medical science of Sweden?

Numbers two and three are written in German. Professor Gustaf Retzius in the former discourses on the formation of the ovaria and the Græafian Follicles, describing his investigations on live rabbits and illustrating the results in finely executed lithographs. In the latter, Dr. E. J. Widmark gives an interesting account of the Influence of Light on the Skin, showing that its action in producing diseased conditions of the integument, such as eczema solaries, etc., is due to the ultra violet rays, and that the same condition may obtain by a near exposure to electrical light. These theories are supported by reference to many well-known historic instances, as well as by actual experiments on lower animals, and appear to be well sustained.

In the fourth number Dr. J. G. Edgren describes his studies on Pulsus Bigeminus. A rapid glance at the contents gives assurance that the author is master of his subject; especially are the cases adduced in illustration of absorbing interest. The beautiful cardiographical and sphygmographical delineations, which are enlarged by the pantagraph and printed in white lines on black, are exceedingly curious, and cannot fail to be suggestive to the pathological student, even though unable to read the Swedish text.

The fifth paper is written in German by J. E. Johanson and Robert Tigerstedt, of the Carolinian Medico-Chirurgical Institute at Stockholm.

A series of careful observations and experiments on the action of the pneumogastric nerve upon the movements of the heart are here exhibited. The subject has been studied *de vivo* by vivisection, and the results recorded by registering instruments and printed in the text.

The sixth article is in Swedish by Severin Jolin, and treats of the effect produced upon the alkaline excretions of carnivorous animals by neutral elements, which within the organism are converted into acids. The experiments which were made on dogs are carefully tabulated.

Quelque cas de polyopie monoculaire hysterique. Memoire de la clinique de maladies du système nerveux à Stockholm, par C. G. Santesson is the title of the next number, which, as indicated, is written in French. The length of this paper precludes the possibility of even the briefest synopsis, but a glance through its sixty-four pages convinces us that it is a most interesting and valuable contribution to medical literature.

In number eight Prof. P. J. Wissing has a communication in German, entitled Zur Kasuistik der Augenmigraine, besonders der mits cerebralen Erscheinungen associirten Form. After a few remarks on the history of this form of malady founded on the literature of preceding writers, especial regard being paid to the opinions of Charcot and Fêrès, the author proceeds to give his latest observations of six cases which have come under his eye at his nerve clinic in Stockholm. The article is fifty-nine pages long, and closes with a brief account of the opinions of the various authorities as to the cause of the disease.

Number nine is a short article in Swedish by Alb. Lindström, describing two scaphocephalous sculls in his possession, illustrated by beautiful outline engravings.

The next contribution by Gustaf Ritzius, also in Swedish, and illustrated with tables and photographs, describes at length Bertillon's anthropometrical method of identifying criminals in thirty-six pages.

Number eleven by E. O. Hultgren and E. Landergren, of the Physiological Laboratory of the Carolinian Medico-Chirurgical Institute at Stockholm, a German article, is entitled Untersuchung die Ernährung bei freie gewählter Kost,—fifty-seven pages, profusely explained by tabulated statements.

Next follows (No. 12) a description by Prof. Carl J. Rossander, of a case of pylorus and of section of intestine with fatal result. (Swedish.)

The author remarks in the opening paragraph that it is much more agreeable for an operator to describe a case with happy issue, but he holds that an unfortunate result of an operation may be no less instructive. The case here cited is one of unusual interest, and may in a translated form find place in one of our issues in the near future.

"A few words on the exhibition and determination of sugar in the urine," by Prof. K. A. H. Mörner, next claims the reader's attention. On looking over it, we find it to be a careful and highly scientific review of all the known methods for determining the presence and quantity of the various kinds of sugar in the human urine, whether in health or sickness, particular care being taken to point out the simplest and best means of investigation by the practising physician—an article that merits careful study.

The Transposition Products of Phenacetin in the human organization is the title of the next paper by the same author.

The chemical changes of various antipyreal and antineuralgical aniline or phenolin remedies are briefly discussed, the poisonous effect on the blood of some of them pointed out, and chemical remedies suggested to render them inocuous.

No. 15. A case of hernia diaphragmatica acquisita, by Dr. E. S. Perman and Prof. C. Wallis. This interesting case must, for want of space, be left to further study and possible translation.

In the sixteenth number Docent F. Westermark and M. G. Annell give an interesting case of glandular myxomatic ovarian cyst, with peculiar myxom-like forms in the cavity of the peritoneum, beautifully illustrated.

The seventeenth article treats of the manner of supplying materials for anatomical studies in Stockholm, Upsala, and Lund, by Prof. Algot Key-Åberg. The next is from the pen of Karl Rudberg, and is an appeal for the re-organization of the medical department of the navy.

Thus we have in the briefest manner sketched the contents of this valuable contribution to medical literature. The scope of our plan in editing our journal does not permit a more extended notice, however much we would be pleased to give to each article the attention it deserves. In calling to mind the grave matters discussed in some—we might well say in all—of the numbers, we cannot but regret that our view was necessarily cursory, and that we have even been unable to give our readers the benefit of extracts of what may be termed a compendium of medical lore, rarely found in one moderately-sized volume, and coming from careful investigators, some of whom enjoy and deserve a world-wide reputation. Besides and apart from the

intrinsic value of its pages, they give the greatest proof of the brotherhood of science. The true scientist is your only cosmopolitan. In search of truth he knows no country, no nationality, no jealousy, that will bar him from looking for it in the remotest corner of the earth. Nor will he refuse credit where credit is due. It is gratifying also to know that the jealousies existing between the Scandinavian nations, which to a large extent are fostered by writers of fiction, seems to be utterly unshared by the members of the medical profession, and that from the fiords of Norway, from the fertile fields of Denmark, nay, even from the plains and moors of Finland, knowledge and wisdom finds in Sweden a cordial welcome and due appreciation. May northern lights be ever radiant.

PROTECTION APPLIED TO THE PRACTICE OF MEDICINE.

The following editorial with the above title in the New York *Medical Journal*, for December 14, 1889, calls attention to an evil that we consider of sufficient importance to reproduce entire what our able contemporary says on the subject. We bespeak for it a careful reading :

The very large number of Americans who winter in the south of Europe, whether for purposes of recreation or for the recovery of lost health, will hear with astonishment and dismay of the recent action of the French Government concerning English physicians practising abroad. Formerly a foreign physician wishing to practise in the Riviera could qualify by reporting himself at Marseilles and passing the by no means insignificant examination for the grade of *officier de santé*. This was a considerable obstacle and deterred many from pitching their tents in the French winter resorts. But it seems that even this protection is not sufficient. At Nice, Cannes, and Mentone —places, be it remembered, built up entirely by the recommendations of English physicians—the whole of the English and American practice (and very good practice it is in the season) has been in the hands of the well-established English-speaking physicians settled there. This state of affairs seems to have caused a great deal of jealousy among the native doctors, who, as elsewhere on the continent, regard Anglo-American travel as an institution specially devised by Providence for their maintenance. Pressure has been brought to bear upon the French Government, by the representatives of these persons, of such weight as to force M. Fallières, the Minister of Public Instruction, to inform the English ambassador in Paris, with respect to English medi-

cal men who may be seeking authority from the French Government to practise in France, that it will not be possible in future for his Department to give the same favorable consideration to applications of this kind as has hitherto been accorded them, whether received directly by the Minister or through the British Embassy, and that the applications will be refused unless "in instances presenting very exceptional claims."

The meaning of this pronunciamento is plainly to the effect that after date no English doctor is to practise in France. Those who have already gained a high professional position in the cities and towns which Englishmen and Americans most frequent will, it is presumed, not be expelled; but they are not immortal, and a few years will see the race die out, and then the French doctor will have it all his own way; he alone will have the honor and glory of looking at the tongue and feeling the pulse of John Bull and Brother Jonathan.

We regard this as a very serious matter, requiring joint action on the part of our Government and that of Great Britain. When we consider the vast number of our countrymen who spend their time in France, it seems outrageous that they should practically be denied the privilege of obtaining necessary advice, to say nothing of sympathy and consolation, from one speaking their own tongue. A foreign doctor in no way takes the place of one accustomed to our ways of thought and action, even if he does speak English or even if we do speak his language. The French law, if carried out, will render it a punishable offense for a young American or English doctor to travel with a patient in France, and a New York or London consultant will not find in foreign cities a physician to whom he can transfer a patient whose case requires careful explanation.

If the French Government would but inquire into the causes of the influx of visitors to these winter resorts, it would find that the Anglo-American immigration originated largely in the recommendations of those speaking our language. Smollett, an English doctor, brought Nice to public notice. What would Cannes, with its sixty hotels and its floating population of ten thousand, be to-day were it not for the notice into which it was brought by Lord Brougham, and for the recommendations of such authorities in chest disease as Williams and Walshe? As for Mentone, it was made by Bennett. And now, having enjoyed for so many years the products of the conversion of the English sovereign and the American dollar into the French franc, the Department of Public Instruction of the Republic is about to perform that old operation described in detail by Æsop and known to the public as killing the goose that lays the golden eggs.

THE INTERLEAVING OF ADVERTISING PAGES BETWEEN READING MATTER.

It has become quite a custom of late among some of our contempories, to interleave their original and general reading matter with light-colored and fancy illustrated advertising pages.

We are strenuously opposed to this innovation, even though such a misplaced advertisement pays double for its usurped position.

The busy practitioner in scanning over his medical journal, is either bent on seeking information, or else is desirous of acquainting himself with the latest and best improvements in the matter of drugs, instruments and books. If he is seeking the latter, he certainly knows where he has to seek, or else he has recourse to the index; if he is intent on the former, he surely does not delight to have his train of thought suddenly collide with some highly artistic advertisement on 'beef peptonoids,' or other manufactured articles, no matter how valuable.

The truth is, the reader in subscribing for a journal, be it lay or professional, has acquired certain rights which the editor is bound to respect. He pays only for the reading matter, and expects to find that of the best quality, unadulterated, and in such a position where he is able to glean it with the least difficulty and least annoyance.

The advertiser also has his rights, and stipulates them in his contract. If his article be meritorious, and we believe such as appear in this journal are, he certainly gains nothing by attempting to force his goods upon the eye of the assiduous reader. In most cases, such pages are immediately destroyed, so as not to interfere with the continuation of some paper which otherwise would be disconnected.

The best journals, of whatever class, tongue, or clique, so arrange their matter that both reader and advertiser receive fullest remuneration. In such cases neither encroaches upon the other, both are distinct, and still both are brought into legitimate contact. Such is successful journalism.

We have recently received the thirty-seventh annual announcement of the Medical Department of the University of Vermont, located at Burlington in that State. Among other interesting features it contains a circular advertising "Lactated Food" and "Paine's Celery Compound," of the Wells, Richardson Company, also located at Burlington. We suppose this indicates some of the therapeutical measures used in this institution, or else the faculty would not have allowed the circular in their catalogue. We commend the enterprise

of the Wells, Richardson Co., and also of the faculty of the college, though this is the first time to our knowledge that the annual announcement of a reputable medical school was ever used as an advertising medium for proprietary medicines. When we look over the list of names of the teachers printed in the catalogue we are at a loss to understand why this was allowed. Especially should the Dean of the Faculty have prevented it. We trust this example will not be followed by any other school. When medical colleges become the advertising agents of enterprising manufacturers of medicine, no matter how meritorious the article so advertised, they lower the standard of their usefulness and affront the dignity of the profession.

PHYSICIANS in possession of pathological specimens desirous of placing them in the museum of the Niagara University Medical College, will please send them to Wm. C. Krauss, M. D., 176 Franklin street, or to the college.

Such specimens will be properly prepared for exhibition with the name of the donor attached to the label.

Society Meetings.

THE Medical Society of the County of Erie will hold its regular annual meeting on Tuesday, January 14, 1890, at 10 o'clock A. M. in the lecture room of the Y. M. C. A., corner West Mohawk and Pearl streets, under the presidency of Dr. R. L. Banta, of this city.

THE eighty-fourth annual meeting of the Medical Society of the State of New York will be held in the city of Albany Tuesday, Wednesday, and Thursday, February 4, 5, and 6, 1890, under the presidency of Dr. Daniel Lewis, of New York City.

BUFFALO PATHOLOGICAL SOCIETY—SCHEDULE FOR SIX MONTHS.—December 20, 1889. Peritonitis. Pathogenesis and Morbid Anatomy: Dr. Wm. Krauss. Symptomatology, Diagnosis and Medical Treatment: Dr. H. R. Hopkins. Surgical Treatment: Dr. Herman Mynter.

January 17, 1890—Asthma. Pulmonary: Dr. C. R. Jewett. Cardiac: Dr. Ben. Long. Reflex: Dr. F. H. Potter. Discussion by Drs. John Pryor, W. H. Thornton and W. F. Hinkel.

February 21, 1890—Tumor Albus. Pathogenesis and Morbid Anatomy: Dr. S. Y. Howell. Symptomatology and Diagnosis: Dr. Eugene A. Smith. Treatment: Dr. John Parmenter. Discussions by Drs. W. H. Bergtold, Roswell Park and E. H. Norton.

March 21, 1890—Arteritis. Etiology and Pathology: Dr. M. A. Crockett. Symptomatology and Treatment: Dr. A. W. Hurd. Discussion by Drs. C. G. Stockton and Ernest Wende.

April 18, 1890—Phlebitis and Lymphangitis. Etiology and Pathology: Dr. C. C. Frederick. Symptomatology and Treatment: Dr. M. D. Mann. Discussion by Drs. Eli Long and P. W. Van Peyma.

May 16, 1890—Multiple Neuritis. Etiology: Dr. A. C. Benedict. Pathology: Dr. H. G. Matzinger. Diagnosis: Dr. I. M. Snow. Treatment: Dr. J. W. Putnam.

Obituary.

Professor Richard von Volkmann died at Halle, November 28th. He was born in Leipsic August 17, 1830, began the study of medicine in Halle in 1850. In 1857 he was made assistant in surgery under Blasius, after whose death in 1867 he was made Professor of Surgery and Director of the Surgical Clinic, which positions he held at the time of his death.

He was the first to practise antisepsis in Germany, and won, through his admirable technique and clear teaching, the reputation of being Germany's ablest surgeon. No one did so much as he to throw light upon bone diseases, and especially the tuberculous forms of it. He was made a nobleman in 1885 in recognition of his surgical ability.

Dr. Thomas B. Harvey, of Indianapolis, Ind., died suddenly at his home on the evening of December 5, 1889, aged sixty-two years. Dr. Harvey was Professor of the Surgical and Clinical Diseases of Women in the Medical College of Indiana, and was engaged in Clinical teaching when he was stricken down with an apoplectic seizure. He was a picturesque character in the medical circles of the mid-West, an amiable man, and an able teacher—active in local, state, and National medical councils. He was present at the Newport meeting of the American Medical Association in June last, and also at the Evansville meeting of the Mississippi Valley Medical Association in September. His death at his post of duty was an ideal one for a physician, and a large circle of medical friends and acquaintances throughout the Union will join with his afflicted family in mourning his decease.

Book Reviews.

Germania. A Fortnightly Journal for the Study of the German Language and Literature, Manchester, N. H.

Any educational journal which facilitates the study of a language so important as German, is a welcome addition to the text-books upon this subject. As said in the prospectus, the aim of Germania is two-fold: (1) It will teach the language; special attention is given to the different grades of students, beginners, intermediate, and advanced. Great care and attention is given to orthoepy and orthography, to synonyms, to grammar, etc., and a special column is devoted to each of them. (2) It will try to acquaint readers with the best of German Literature. It always contains a continued novel from the pen of the best German writers, with translations of difficult words and phrases. It gives selections from the great poets, biographies, National ballads, etc. It contains a special column of books and lectures for the assistance of its readers. It answers also all questions concerning literature, grammar. pronunciation, etc. It is, indeed, a valuable journal, containing many interesting bits of information, historical and other. We hope it may receive the liberal support that it deserves. J. P.

The Urine, The Common Poisons, and The Milk. Memoranda, Chemical and Microscopical, for Laboratory Use. By J. W. HOLLAND, M. D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, of Philadelphia. Illustrated. Third edition, revised and much enlarged. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1889.

Prof. Holland has made a useful guide for the laboratory student in this neat book of eighty-four pages, printed on one side of each leaf. It also becomes a useful book of working reference for a physician who must needs make his own urinary examinations and do sundry other work in minor chemistry and toxicology. The addition of instructions in milk examinations makes it of further value for health officers in the smaller cities and towns that do not have regularly appointed official chemists.

Chemistry: General, Medical, and Pharmaceutical, including the Chemistry of the U. S. Pharmacopeia. By JOHN ATTFIELD, F. R. S. Twelfth edition. Philadelphia: Lea Brothers & Co. Pp. 770. 1889.

A work which has passed through twelve consecutive editions needs no comment, no word of praise, from the reviewer's pen. This

edition contains such alterations and additions as are necessary to keep abreast with the latest observations and latest applications of chemistry in pharmacy. The work now includes the whole of the chemistry of the United States Pharmacopeia, and nearly all the chemistry of the British and Indian Pharmacopeias.

The section on Organic Chemistry is classified according to the system now adopted by most authorities.

The typography is up to the standard of previous editions.

W. C. K.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Compiled by JOHN S. BILLINGS, Surgeon, U. S. A. Authors and Subjects. Vol. X. Pp. 1,059. O.—Pfutsch. Washington: Government Printing Office. 1889.

This volume includes 7,658 author-titles, representing 2,905 volumes and 7,282 pamphlets. It also includes 14,265 subject-titles of separate books and pamphlets, and 29,421 titles of articles in periodicals. The publication of this work was begun in 1880; ten volumes have been issued—an average of one a year. The total number of titles to date is given in a table in the letter of the bibliographer transmitting the work to the Surgeon-General, from which it is ascertained that there have been published already, under the head of author-titles, 107,788 titles, representing 54,298 volumes and 93,002 pamphlets; under the head of subject-titles, 107,419 book-titles and 336,772 journal articles, besides 4,335 portraits. From this may be gained an idea of the stupendous character of the work necessary to prepare this invaluable index of medical literature, and it reflects the greatest credit upon its author, to whom the country properly accredits the distinction of the greatest bibliographer in the world.

Essentials of Materia Medica, Therapeutics and Prescription Writing, arranged in the form of Questions and Answers, prepared especially for Students of Medicine. By HENRY MORRIS, M. D., late Demonstrator, Jefferson Medical College, Philadelphia; Co-Editor Biddle's Materia Medica; Visiting Physician to St. Joseph's Hospital; Fellow College of Physicians, Philadelphia, etc., etc. 12mo, pp. xvi., 250. Philadelphia: W. B. Saunders, 913 Walnut street. 1889.

This book is No. 7 in Saunders's question-compends, and is uniform in style and general appearance with the others of the series. The subjects of which this author treats are presented in a unique and attractive manner, such as cannot fail to impress the young mind and instruct it in a lasting way. Moreover, the author is experienced in teaching, and comprehends the avenues through which instruction must be imparted in order to make it valuable. Three conditions

are required to make learning valuable; first, it must be comprehended; second, it must be remembered; and third, it must be applied. This book, in the hands of a well-trained mind, will be found useful in the directions named. Its beautiful make-up, which is a fine specimen of book art, will contribute not a little to make it serve its purpose.

A Manual of Chemistry, for the Use of Medical Students. By BRANDRETH SYMONDS, A. M., M. D., Assistant Physician to Roosevelt Hospital, Out-Patient Department; Attending Physician Northwestern Dispensary, New York. Pp. 154. Philadelphia: P. Blakiston, Son & Co. 1889.

Chemistry would seem to furnish a proper field for a well-prepared manual. It facilitates the acquirement of practical information by the student, while omitting much that can never be thoroughly acquired—much less applied—by any except those who expect to teach the science. It is our opinion, after a reasonably careful examination of Dr. Symonds's book, that it meets the claims of its author, and we think the student in search of such literature cannot fail to derive satisfaction from its possession.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Materia Medica, Pharmacology, and Therapeutics. By John V. Shoemaker, A. M., M. D., and John Aulde, M. D. In two volumes. Volume I. F. A. Davis, publisher, Philadelphia and London. 1889.

A Text-Book of Practical Medicine. Designed for the use of students and practitioners of medicine. By Alfred L. Loomis, M. D., LL. D. Eighth edition, revised and enlarged, with 215 illustrations. Pp. xvii., 1147. New York: William Wood & Co. 1889.

A Hand-Book of Pathological Anatomy and Histology; with an introductory lecture on Post Mortem Examinations, and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M. D., and T. Mitchell Prudden, M. D. Third edition. Illustrated. New York: William Wood & Co. 1889.

Transactions of the Association of American Physicians. Fourth volume. Philadelphia: Printed for the Association. 1889.

Oxygen and other Gases in Medicine and Surgery. By J. N. Demarquay, M. D. Translated, with Notes, Additions, and Omissions, by Samuel S. Wallian, A. M., M. D. Illustrated with fine wood engravings. Philadelphia and London: F. A. Davis, publisher. 1889.

Education and Culture as Related to the Health and Diseases of Women. By Alex. J. C. Skene, M. D. The Physician's Leisure Library. 1889. Geo. S. Davis, Detroit, Mich.

Diabetes. By A. H. Smith, M. D. The Physician's Leisure Library. 1889. Geo. S. Davis, Detroit, Mich.

Mittheilung aus der Kgl. Frauenklinik in Dresden. Zur Behandlung der Uterusruptur. Von Prof. Dr. Leopold. Leipzig. Druck von A. Th. Engelhardt. 1889.

Concealed Pregnancy: Its Relations to Abdominal Surgery. By Albert Vander Veer, M. D. Reprint from the *American Journal of Obstetrics and Diseases of Women and Children*, November, 1889. New York: William Wood & Co., publishers.

The Surgical Treatment of Erysipelas in Children. By A. Seibert, M. D. Reprint from the New York *Medical Journal* for October 19, 1889.

The Cure of Hernia by the Use of the Buried Antiseptic Animal Suture. By Henry O. Marcy, A. M., M. D., LL. D. Reprint from the *Journal of the American Medical Association*, November 2, 1889. Chicago.

Chronic Inversion of the Uterus. Reduction by a New Method. By Henry O. Marcy, A. M., M. D., LL. D. Reprint from the *Journal of the American Medical Association*, July 20, 1889. Chicago.

A Hitherto Undescribed Disease of the Ovary; Endothelioma changing to Angeioma and Hematoma. By Mary A. Dixon Jones, M. D., Brooklyn. Reprint from the New York *Medical Journal* for September 28, 1889.

Two Cases of Removal of Uterine Myoma: one, Suprapubic Hysterectomy; the other Complete Hysterectomy. By Mary A. Dixon Jones, M. D. Reprint from the New York *Medical Journal* for August 25 and September 1, 1888.

Case of Tuberculosis Papillomatosa Cutis, with Remarks on the Relation of Papilloma to Syphilis, Lupus, etc. Illustrated with chromo-lithograph plate. By Prince A. Morrow, A. M., M. D. Reprint from the *Journal of Cutaneous and Genito-Urinary Diseases*, October and November, 1888.

Personal Observations of Leprosy in Mexico and the Sandwich Islands. By Prince A. Morrow, A. M., M. D. Reprint from the New York *Medical Jonrnal* for July 27, 1889.

Proceedings and Addresses at a Sanitary Convention, held at Ludington, Mich., July 11 and 12, 1889. Under the Direction of a Committee of the State Board of Health and a Committee of Citizens of Ludington. Supplement to the Report of the Michigan State Board of Health for the Year 1890. Lansing: Darius D. Thorp, State Printer and Binder. 1889.

Annual Report of the Treasurer of the United States. 1889. Washington: Government Printing Office.

Cornell University, College of Agriculture. Bulletin of the Agricultural Experiment Station. Entomological Department. XI. November, 1889. On a Saw-Fly Borer in Wheat. Published by the University, Ithaca, N. Y.

The Identification of Criminals. Its Value as a Preventive of Crime; and the Importance of Unity of Action among Prison Officials in Securing a Fixed and General System. Read at the Congress of the National Prison Association, at Nashville, Tennessee, November 16-20, 1889. By Charles E. Felton, Superintendent of the House of Correction, Chicago, Ill. Knight & Leonard Co., Printers.

Thirty-Seventh Annual Announcement of the Medical Department, University of Vermont. For the Year 1890.

Monthly Bulletin of the New York State Board of Health. October, 1889.

Report of Deaths and Contagious Diseases for October and November, 1889. Newport, R. I.

Health in Michigan, November, 1889.

Weekly Abstract of Sanitary Reports. Vol. IV. Nos. 47, 48, 49, and 50.

Literary and Other Notes.

A Valuable and Unique Business Calendar.—The most convenient, valuable, and unique business table or desk calendar, for 1890, is the Columbia Bicycle Calendar and Stand, issued by the Pope Mfg. Co., of Boston, Mass. The calendar proper is in the form of a pad containing 366 leaves, each 5½x2¾ in.; one for each day of the year, to be torn off daily, and one for the entire year. A portion of each leaf is left blank for memoranda, and as the leaves are not pasted but sewed at the end, any entire leaf can be exposed whenever desired. By an ingenious device the leaves tear off independently, leaving no stub. The pad rests upon a portable stand, containing pen-rack and pencil-holder, and when placed upon a desk or writing table the entire surface of the date leaf is brought directly, and left constantly, before the eye, furnishing date and memoranda impossible to be overlooked. The stand is made of colored wood, mounted with raised letters in brass, and is practically indestructible. The days of the week, the number of the days of the year past and to come are specified, and upon each slip appear quotations pertaining to cycling from leading publications and prominent writers; and, although this is the fifth year of the calendar, they are fresh and new, mentioning the notable events in cycling, opinions of medical authorities, clergymen, and other professional gentlemen, the rights of cyclers upon the road, cycling statistics, records, advice about costumes, directions for road making, and other interesting matter, the whole forming a virtual encyclopedia of cycling. Beside the cycling quotations there are many pertaining to typewriting, with occasional reference to the typewriters made by the Pope Mfg. Co. The information contained on the calendar, would, if placed in book type, make a fair-sized volume.

The *Cosmopolitan* for January, 1890, will contain the following: Bouguereau, Artist and Man, illustrated, Carroll Beckwith; Columbia College, illustrated, Hjalmar Hjorth Boyesen; Thrones That Will

Totter Next, Mayo W. Hazeltine; Sugar Cane and Sugar Making, illustrated, William H. Ballou; Two Birds, poem, Frank Dempster Sherman; The Development of the Coat and Waistcoat, illustrated, Wm. Hamilton Bell; Had I Your Love, poem, M. C. Gillington; A Cruise Around Antigua, in the field papers, illustrated, Poultney Bigelow; Famous Beauties, illustrated, Elizabeth Bisland; Blenheim, the Famous, illustrated, Charles S. Pelham-Clinton; The Romantic Story of a Great Corporation, illustrated, J. Macdonald Oxley; St. Mary of the Angels, Thomas A. Janvier, illustrated by F. Hopkinson Smith, A. E. Sterner, Louis J. Rhead and from photographs; Ode to Sorrow, poem, William Bronson Le Duc; Social Problems, Edward Everett Hale; In the Library, illustrated, William S. Walsh, George Parsons Lathrop.

This magazine is fast achieving a reputation for excellence that will establish it in the forefront of American monthlies, and it should find a place in every household of culture and refinement.

In this connection we invite attention to the following:

COSMOPOLITAN MAGAZINE,
MADISON SQUARE BANK BUILDING,
Fifth Avenue, Broadway and Twenty-fifth street, New York.

Dear Sir—Please call attention to the clause in advertisement of your journal in combination with the *Cosmopolitan* magazine which makes the offer apply to "New Subscribers Only." The price of the *Cosmopolitan* is so low that it is impossible for us to receive renewals at anything less than the regular price of $2.40. The combination is intended to bring the magazine to the attention of those not already familiar with it. Please ask persons proposing to subscribe for the two journals in combination, if they are already subscribers to the *Cosmopolitan*. If so, it will save time and correspondence to have matters explained fully in the beginning.

Yours very truly,
THE COSMOPOLITAN.

DECEMBER 12, 1889.

THE PHILADELPHIA MEDICAL AND SURGICAL REPORTER presents an attractive offer on our advertising page that will well repay reading and acting upon. If any one should ask our opinion (which surely is not needed) we should answer that we regard the *Reporter* as well worth the full subscription price, $5.00 a year, and that it is one of the best of journals.

BOSTON'S new magazine, *The Transatlantic*, in its issue of December 14th, contains a fine portrait of Emile Zola; an extended extract (the first printed in this country) from his new novel, "The Human Beast"; a comparative criticism of his early work, just republished,

"Le Vœu d'une Morte"; and an interesting interview with Zola, in which he announces his candidacy for the French Academy. Other features of the number are Alphonse Daudet's preface to his new play, "The Struggle for Life," the reigning sensation on the Paris stage; a picturesque review of the Paris Exposition; two pages of music specially composed for a dance in "The Dead Heart," the play that Henry Irving is now running at the London Lyceum Theater; a novelette, "Figaro I. and Figaro II."; and many shorter articles of interest.

THE following letter exhibits such amazing effrontery that we publish it for the information of our exchanges:

J. H. CHAMBERS & Co., Publishers, 914 Locust street.

St. Louis, December 3, 1889.

BUFFALO MEDICAL AND SURGICAL JOURNAL, Buffalo, N. Y.:

Gentlemen—To answer the many requests which have been made by general medical journals to exchange with the *Annals of Surgery*, and whereas our editor has no use for such journals, we have concluded to mail the *Annals of Surgery* to such journals, with the understanding that they give editorial notices at least three times a year of the *Annals*.

Should you desire the *Annals of Surgery* during next year, kindly inform us, accepting of those conditions, and oblige,

Yours truly,

J. H. CHAMBERS & CO.

The BUFFALO MEDICAL AND SURGICAL JOURNAL has a high appreciation of the *Annals*, but we cannot offer it a premium to exchange with us. If the editor of the *Annals* has no use for the JOURNAL, we must, perforce, remain content, but we submit that we might be spared the painful duty of reminding the publishers, Messrs. J. H. Chambers & Co.—we cheerfully give the firm name in full—that there are some courtesies not more "honored in their breach."

THE NATIONAL MAGAZINE for January announces two new and valuable departments—"Biblical Literature" and "Pedagogy"—with Rev. J. C. Quinn, Ph. D., and J. S. Mills, A. M., President of Western College, as editors. Agricultural readers will be especially interested in the new "Institute of Agriculture," described in this number—a part of the University Extension System of the National University of Chicago, whose non-resident or correspondence undergraduate and post-graduate courses have met with such favor. Other articles are by Prof. E. A. Birge, of the University of Wisconsin, and eminent specialists. Published at 147 Throop street, Chicago, Ill. Subscription, $1.00 per year. Sample copy, 10 cents.

STATISTICS OF LEPROSY IN THE UNITED STATES.—In view of the general impression that Leprosy is spreading in this country, it is desirable, in the interest of the public health, to obtain accurate information upon this point. The undersigned is engaged in collecting statistics of all cases of leprosy in the United States, and he would ask members of the profession to aid in this work by sending a report of any case or cases under their observation, or coming within their knowledge.

Please give location, age, sex, and nationality of the patient, and the form of the disease—Tubercular or Anesthetic; also any facts bearing upon the question of contagion and heredity.

Address DR. PRINCE A. MORROW,
Journal of Cutaneous and Genito-Urinary Diseases,
66 West 40th street, New York.

THE Transactions of the American Association of Obstetricans and Gynecologists, Vol. II., 1889, is now ready. Orders should be addressed to the Association's printer, William J. Dornan, 100 North Seventh street, Philadelphia, Pa., or to the undersigned,

WILLIAM WARREN POTTER, M. D., Secretary,
284 Franklin st., Buffalo, N. Y.

MESSRS. WORTHINGTON & Co., publishers, 747 Broadway, New York, announce in their Fall list an exceedingly attractive catalogue of choice literature, under the name of the World Library. Each volume is printed in large, clear type, on good paper, illustrated and handsomely bound in black and gold. Price each, $1.00.

THE following notice appears in the *Journal of the American Medical Association,* December 21, 1889, and is reproduced for the information of all concerned:

AMERICAN MEDICAL ASSOCIATION, SECTION OF OBSTETRICS AND DISEASES OF WOMEN.

FORTY-FIRST ANNUAL MEETING.

The officers of the Section of Obstetrics and Diseases of Women respectfully request those who desire to read papers in that section at the meeting of the American Medical Association to be held in Nashville, Tenn., May 20–23, to communicate the titles thereof to either of the undersigned not later than January 15, 1890.

WILLIAM WARREN POTTER, *Chairman,*
284 Franklin street, Buffalo, N. Y.
JOSEPH HOFFMAN, *Secretary,*
126 W. Diamond street, Philadelphia, Pa.

Buffalo Medical and Surgical Journal

Vol. XXIX. FEBRUARY, 1890. No. 7.

Original Communications.

THE RELATION OF THE THORACIC AND ABDOMINAL WALLS TO THE SPINAL COLUMN, CONSIDERED WITH REFERENCE TO THE TREATMENT OF ANTERO-POSTERIOR CURVATURES.[1]

By LOUIS A. WEIGEL, M. D., Rochester, N. Y.

Orthopedic Surgeon to the Free Out-Patient Department of the Rochester City Hospital.

The intimate anatomical relation which exists between the different component parts of the trunk, leads to the inference that there must necessarily be a correlation of physiological action. It is self-evident, therefore, that there cannot be a change of condition in any one part without affecting, secondarily, all others, to a greater or lesser degree.

I propose, in this paper, to briefly review the relation which the thoracic and abdominal walls bear to the spinal column, and endeavor to show that they assist materially in maintaining the upright position of the body; and must, therefore, be considered in the study of spinal curvatures

For a long time, the muscular system alone was considered the active force in the induction and maintenance of the various positions of the body. It is a recognized fact, however, that active muscular action, even when continued for a comparatively short time, induces fatigue, and results in diminution of power. It is, therefore, neces sary to view the function of the muscular system in an entirely different light. Active muscular contraction, undoubtedly, institutes changes of position and opposes a disturbance of equilibrium when the center of gravity of the body is displaced. It is also the active force which transfers the center of gravity to a point where an equilibrium may be established. But the ultimate effect of all muscular

1. Read before the American Orthopedic Association, in Boston, Mass., September 17, 1889.

action is simply to decrease the work imposed upon the muscular system to the greatest possible extent, thus allowing the physical forces to do their share of work.

With reference to the spinal column, it has been clearly demonstrated, by experiment, that the physical forces are sufficient to maintain the upright position, without the intervention of muscular action. This fact is also demonstrated, clinically, in cases of paralysis of the sacro-spinal muscles, in which muscular action is entirely eliminated. Meyer[1] relates an interesting case of this kind. The patient was a boy of fourteen years of age. When asked to pick up an object from the floor, he dropped forward to reach it; then, grasping the legs with his hands, he climbed up on them by raising alternately the sides of the trunk by contraction of the abdominal muscles, thus enabling him to grasp the leg somewhat higher up. When he reached the knees, he placed both hands on them and raised himself rapidly by a simultaneous extension of the knee- and hip-joints, at the same time throwing the trunk backwards, by forcibly extending the elbow-joints. He was then enabled to stand and maintain the upright posture.

In addition to this inherent tendency of the spine to remain erect, it is sustained by all the structures connected with it. In order to ascertain the exact relation the spine bore to other parts of the trunk, W. Parrow,[2] of Berlin, conducted a series of experiments on the cadaver. It was found by him that, when the pelvis was fixed in such a position as to allow the trunk to balance, the removal of the abdominal viscera was followed by an appreciable forward and downward movement of the seventh cervical vertebra. When the thoracic cavity was emptied, the spinal column moved upward and backward to a certain extent, but did not attain its primary position. In another experiment, simple incision of the abdominal walls was found to be sufficient to allow the vertebræ to sink downward and forward.

In the first experiment spoken of, it will be readily seen that, by the removal of the abdominal viscera, the thoracic organs are deprived of their natural support, and drag the column forward by their own weight. Thus, the center of gravity is displaced. This, however, may be restored by forcing the column back and increasing the normal posterior convexity of the dorsal segment, which will enable it to sustain the entire weight of the remaining portions of the trunk.

The effect of removing the thoracic viscera, after the abdominal cavity is emptied, is apparent. The weight of the trunk is lessened, so that the center of gravity is not displaced to any great extent. The spinal column, therefore, remains more nearly in its proper position.

1. Albert's Chirurgie, Bd. II., 1881, S. 33.
2. Virchow's Archiv., Bd. XXXI., 1864, p. 97.

The relation of the thorax to the spinal column is another point of interest. As stated by Parrow,[1] the first and tenth pair of ribs, with the vertebræ and sternum, form an elastic arch, which is strengthened by the interposition of other ribs. This increases its power of resistance to forces which tend to alter its shape. The anterior concavity of the dorsal curve is maintained by this costo-sternal arch, and the whole thorax forms an integral part of the spinal column. Anything which destroys or interferes with the integrity of the costo-sternal arch, must necessarily change the relative conditions of the spinal column and thorax.

It has been demonstrated that, when the integrity of the arch is destroyed, as, for instance, by removal of the sternum, the normal curve of the dorsal region becomes more extended, and forms a curve of greater radius; at the same time, the lumbar curve disappears entirely. This would seem to show that the superincumbent weight, or the simple force of gravity, is not sufficient to overcome the resistance to extension which the spinal column acquired by its connection with the costo-sternal arch.

The organs which this arch surrounds cannot, of course, be subjected to direct pressure, on account of the comparatively firm chest-walls. As Beely[2] well says, there cannot be an increase of the intra-thoracic pressure, in the sense that we speak of an increase of the intra-abdominal pressure; for, with every respiratory movement and opening of the glottis, an equalization of pressure would take place. The thoracic viscera, however, may be acted upon indirectly through the diaphragm; and in consequence of the intimate connection which exists between the ribs and vertebræ, the latter may be directly influenced by the whole thorax.

In the elaborate work of Parrow, who made a practical study of the physical conditions of the upright posture and the normal curvatures of the spinal column, upon the cadaver and the living subject, there are many other points of interest, which, however, cannot be enlarged upon at the present time.

Aside from anatomical and physiological facts, clinical evidence can be adduced to prove that the abdominal and thoracic walls assist in supporting the spinal column. Thus, it is a matter of common observation that when a patient is suffering from Potts's disease, the necessity of supporting himself on surrounding objects is not so urgent when sitting as when standing. In the sitting posture, the superincumbent weight of the head and upper part of the trunk

1. Loc. cit., p. 105.
2. Volkmann's Sammlung Klinischer Vorträge. No. 199, p. 11.

remains the same as in standing; but, in the former posture, the abdomen can be subjected to a certain amount of pressure against the pelvis; and thus, by forcing the viscera back and increasing the intra-abdominal pressure, act as a support to the weakened spine. Again, we often see patients suffering from Potts's disease make firm pressure over the abdomen, with both hands, during a paroxysm of pain; and frequently they experience the greatest amount of relief in the recumbent posture, by lying on the belly, hence instinctively assume this posture.

Bampfield[1] has called attention to the fact that, in antero-posterior curvature of the spine, the abdominal muscles cannot act in the same manner as when they are in a normal condition; that they cannot exert the necessary pressure upon the viscera and act as effectual antagonists to the diaphragm, which causes the difficulty of respiration and disturbs the activity of the intestinal tract.

Heather Bigg[2] also says:

> As a large portion of the abdominal organs are those dedicated to the function of digestion, it will easily be appreciated how curvature of the spine, by producing mechanical displacements of the organs, will give rise to a loss of alimentary tone, digestive derangements, and such constitutional disturbances as are dependent on ill or perverted nutrition; and it is not only a fact that such symptoms are accompaniments of spinal curvature, but also that they disappear under the mechanical treatment that is employed to cure the curvature itself.

A short, grunting and suppressed respiration is one of the prominent symptoms of Potts's disease. This symptom has been ascribed to an effort on the part of the patient to prevent motion in the spinal column. The general muscular rigidity of the trunk present in these cases is undoubtedly an effort on the part of the patient to make a muscular splint, as Sayre says; but the fact that by placing the child across the lap and making gradual extension, free and easy respiration is secured, cannot be attributed entirely, in my opinion, to the possible relief of the nerves from pressure. For, in some cases in which a diminution of the curvature does not take place and is not to be expected, the respiration becomes tranquil and regular after the application of any jacket which secures a uniform support of the trunk.

In this connection the history of the first case in which Sayre applied his jacket, is of interest. You will remember that the patient was a boy who was suffering from disease of the three last dorsal and first lumbar vertebræ. Sayre applied a jacket over a well-fitting shirt, without resorting to the use of the so-called dinner-pad. After it was applied he was fearful lest it might interfere too much with

1. Quoted by Beely, Op. cit.
2. Spinal curvature. London. 1882. P. 107.

respiration, and, therefore, cut the jacket through from top to bottom, thus permitting a more complete expansion of the chest. The patient was at once less comfortable than before the jacket was cut. Sayre ascribes the immediate good effect of the dressing to the rest of the diseased parts secured thereby. But, with a disease in the dorsal region, absolute rest certainly cannot be secured, because every respiratory effort would necessarily produce motion at the diseased part. It is more reasonable to ascribe the efficiency of the dressing to the equable support of the spine, and firm pressure upon the abdomen.

The fact that a curvature sometimes increases in extent in spite of the jacket, when the disease is located in the dorsal region, is a proof that the jacket does not support the spine as a splint does a fracture. Sayre recognizes this fact by advising the use of a jury-mast in all cases where the disease is located above the mid-dorsal region. The upper portion of the dorsal region is less under the direct influence of the intra-abdominal pressure and does not receive the direct support of the abdominal walls; hence, the weight of the parts above exerts an injurious pressure upon the weakened spot and produces the marked curvature. This difficulty is obviated, to a certain extent, by the jury-mast.

A word with reference to the dinner-pad. The use of a dinner-pad is advised for the purpose of leaving room for meals. It is apparent, however, that this is of little practical importance, for, unless a very large pad is used, the intended object will not be accomplished. Leaving a large hollow space over the abdomen, must necessarily interfere with the stability and efficiency of the jacket. In the history of Sayre's first case, as already stated, no mention is made of the dinner-pad, and none was probably used, as it is distinctly stated that plaster-of-Paris bandages were applied around the entire trunk over a close-fitting shirt. For the past few years, I have discarded entirely the use of this pad, and have seen no harm come from the omission. It has been my experience, furthermore, that patients express themselves as more comfortable when the support is applied firmly and in direct contact with the abdomen.

In the treatment of spinal affections, mechanical problems present themselves that are sometimes exceedingly difficult. The various segments of the spinal column differ not only in their relation to each other, but also in their relation to surrounding parts, which modify their function in health and demand consideration in disease. It is only by a careful study of *all* existing conditions, from an anatomical, physiological, and mechanical standpoint, that we can intelligently and successfully treat antero-posterior curvatures of the spine.

54 North Clinton Street.

OPTIC NEURITIS AND ITS SIGNIFICANCE AS A SYMPTOM.[1]

By ALVIN A. HUBBELL, M. D.,

Professor of Ophthalmology, Otology, and Laryngology in the Medical Department of Niagara University.

THE announcement of the subject "Optic Neuritis," may carry with it the impression that I am about to discuss a theme which belongs preëminently to ophthalmology, and has very little in it of interest to one who is not specially engaged in ophthalmic practice. But permit me to assure you that such is not the case, for its consideration is of greatest value to the physician, and it has a significance to him of peculiar and deep meaning in the investigation, diagnosis, and treatment of a certain class of diseases. It is only incidentally that the ophthalmic surgeon should have anything to do with this condition, and then it should only be in association with the physician, who accepts his aid because his more frequent use of the ophthalmoscope has, perhaps, trained him to quicker and more accurate appreciation of changes found in the fundus of the eye. Optic neuritis is but a symptom of disease which the physician alone is called up to study and treat; and, because of this, he, above all others, should be able to recognize it, to intelligently study it, and to interpret its meaning, notwithstanding it requires some knowledge of ophthalmoscopy to do so.

And here let me parenthetically remark that the lack, on the part of the physician of to-day, of the knowledge of the use of the ophthalmoscope, and of the ability to use it, puts him behind the times, and cripples him in his efforts to arrive at correct diagnoses and apply such proper treatment as only well-grounded conclusions can suggest. He who fails to use this instrument in his every-day practice lays aside one which is of greatest diagnostic value, (and, withal, easy to use,) and the appearances which it presents are easy to recognize and understand. I trust the time is not far distant when every medical school will require of its graduates a practical knowledge of its workings.

Optic neuritis, otherwise known as "papillitis," "choked disc," "edema of the disc," etc., is an affection of the optic nerve in some portion of its extent characterized by inflammatory action, edema, or degenerative changes, or all of these combined, and the results which attend or follow each or all of these processes.

ANATOMICAL CONSIDERATIONS.

To bring out more clearly some of the pathological aspects of this disease, let us pause a moment to recall some anatomical points in

1. Read before the Central New York Medical Association, November 19, 1889.

regard to the optic nerve and its relations. Arising from the optic commissure at the sella turcica, it passes forwards through the optic foramen into the orbit to the eyeball, and joins the latter at a point to the inner side of its posterior pole. On leaving the cranial cavity it carries with it, and becomes invested throughout its orbital course by the same membranes which surround the brain, and these enclose spaces which correspond to and communicate with the subdural and subarachnoidal spaces of the brain. The pia mater becomes the inner sheath, and the dura mater the outer sheath of the optic nerve, and the space between them, the inter-vaginal space which is more or less completely subdivided into two spaces by the arachnoid membrane. Besides communicating with the brain-cavities, this space also communicates with "lymph" spaces within the optic nerve, and with those surrounding the retinal vessels in the eye. The optic nerve becomes very much constricted at its junction with the ball, its sheaths unite with the sclerotic, and its fibers, divested of their coverings, pass into the interior of the eye through the lamina cribrosa and choroidal opening, and bending at an acute angle expand to form the nerve-fiber layer of the retina. Posteriorly to the ball, the optic nerve-fibers are held together in bundles by connective-tissue, a slight amount of which is also carried into the eye, becoming, here, transparent. The retinal vessels are transmitted through the bulbar end of the optic nerve and enter the eye near the center of its intraocular extremity, known as the optic disc. In the eye, they at first pass upwards and downwards over the disc by one or two primary branches, and these soon divide and subdivide into smaller branches, which ramify in the retina over every part of the fundus, except at the macula lutea.

NORMAL APPEARANCES.

The optic disc is round in shape, and is readily recognized by the contrast which its lighter color gives as compared with the bright, red, choroidal reflex from the rest of the fundus. Its center is usually whitish in color, but beyond this and toward its periphery, it has a reddish or rosy tint. Its surface is nearly flat, with a slight depression at the center, its edges or outlines are clear and well-defined, and the retinal vessels emerging from near the center pass over it in almost a straight course, while over the retina they take long curves. By the direct method of using the ophthalmoscope, the larger vessels reflect a light-colored streak or line along their length.

The intraocular portion of the optic nerve is the only part of it that can be seen, and bearing in mind the normal appearances briefly noted above, we can appreciate some of those changes which mark

the progress of an optic neuritis, and which the ophthalmoscope presents.

APPEARANCES OF OPTIC NEURITIS.

This disease, like all others, may be so slight as hardly to be recognized, or it may be so severe as to make its recognition unmistakable, even to the inexperienced. Its degree of intensity may not only vary, but it may assume different appearances by variations in the character of the process. Thus, the inflammation may be largely interstitial, affecting the connective tissue or neurilemma of the nerve-stem most, when the optic disc will show less deviation from the normal. Or the inflammation may partake more of the edematous process, when the disc will show a more or less pronounced and exaggerated change. Again, if seen late in its progress, degenerative action may have taken place, when still another appearance is presented.

Thus the picture of optic neuritis varies according to its degree, type, and stage. In its active stage, the essential characteristics which are to be looked for and relied upon, are: *First*, Change of color of the optic disc. This is first from the rosy tint to red, and then to a reddish-grey, or lilac-grey, with fine, radiating, red, and grey striations extending around the now indistinct border and over its surface. This has been significantly called "wooly." *Second*, Obscuration of the edges of the disc. In mild cases, and in the early stages, this is first seen where the optic-nerve fibers are most numerous, that is, above, below, and at the nasal side. A slight obscuration is best seen by the direct method of using the ophthalmoscope. If any doubt exists as to whether or not the appearance of blurring is abnormal, comparison should be made with the disc of the other eye, as the neuritis, if present, may be more intense in one than in the other, and the more pronounced obscurity of the edges of one makes the presence of the disease more certain in both. As the case progresses in severity, the whole circumference becomes obscured and fringed with the radiating striations of grey and red, above described; or it may merge in color with the surrounding fundus, no trace of outline being left. *Third*, Swelling of the optic disc. This swelling causes the disc to appear enlarged and increased in height. The extent of enlargement is often two or three times the diameter of the normal disc, and the height sometimes reaches two or three millimeters. The increased size is easily recognized, and the height is measured with the ophthalmoscope in the same way as one would measure refraction of the eye, the difference between the highest point of the swelling and the level of the surrounding retina determining the degree, allowing about one millimeter for every three dioptries of

difference shown by the ophthalmoscope. The height is also indicated by the extent of parallactic movement, or apparent change in position, which it undergoes in relation to structures on different levels when the head of the observer by the direct method, or the object lens by the indirect method, is moved up or down or from side to side. Again, the prominence is shown by the appearance of the vessels, when these can be seen. Where they course down the sides of the swelling they lose their central reflection or light streak, look darker at this point, and appear foreshortened, or as if hooking over the edge of the disc, or changed, or kinked in their course. The veins show this appearance most.

With these three essential conditions present, then, viz., change of color, obscuration of the outlines, and swelling of the disc, optic neuritis may be diagnosticated. But frequently other significant appearances are super-added. Thus, constriction of the vessels as they pass through the lamina cribrosa and the end of the optic nerve, narrows the retinal artery, and, in the eye, it and its branches become diminished in size. The outflow of blood through the retinal vein is, at the same time, impeded, and this vessel and its branches become engorged, and both their length and diameter are increased. The result is that the veins within the eye look tortuous, enlarged, and sometimes varicose. The stasis also leads to hemorrhages, here and there, in the disc and retina, more or less numerous and large. The swelling, also, more or less surrounds the vessels at the disc, according to its amount, and these may be hidden from view, especially the arteries, as they are more deeply situated and straighter, the tortuous veins showing themselves here and there at the points where they prominently curve forward. The inflammatory process may also throw out exudates on the disc, or just at its margin, or perhaps beyond, which have the appearance of whitish or flake-like spots or patches. The tortuous, distended, varicose-looking veins, the disappearance of the vessels here and there from sight, the radiating hemorrhages, and sometimes the white patches on or near the side of the disc, give, then, additional distinctiveness to the essential features of the disease, and all taken together present an impressive and unmistakable picture.

SUBSIDENCE OF NEURITIS.

As the inflammation and edema subside, the disc returns to its normal condition, if the disease has been mild and connective-tissue proliferation slight. But more frequently the exudates become organized, contraction with constriction of the nerve-fibers and capillary vessels follow, and, by a process of degeneration, the optic nerve and

retina pass into a state of atrophy. The first indication of subsidence is diminution of swelling. Then the vessels come more into view; the veins are less distended (although their tortuosity may continue long after the disease has passed away); they are less varicose; new hemorrhages cease to take place; old ones become absorbed, leaving behind white, or pigment spots, or no remains whatever; the disc gradually comes into view again, and it becomes clearly defined in outline, and, if the inflammation has been intense, it finally becomes very white.

Thus, with all possible intermediate types and results, the cycle of changes is wrought. The time required to complete such a cycle also varies greatly, even in cases exhibiting about the same type and form. It may take a few weeks, six to eight, or it may take as many months, or even a year, or more. The stage of onset is the shortest, the stage of persistence next longer, and that of subsidence the longest, although this is often shorter than the persisting stage.

STATE OF VISION.

The only subjective symptom attending neuritis is impairment of vision, either in the field of vision or for objects and colors. But this is often out of all proportion to the appearance of the disc. In some well-marked and, to all appearances, severe cases, the vision seems to be very little, if at all, affected. On the other hand, it suffers very much while the disc-symptoms are less pronounced. Again, the vision may be very much impaired during the active stage, and return after the disease subsides. Or the vision may be greatly affected at first, improve as the neuritis diminishes, and again be lost during the processes of degeneration and atrophy.

CAUSES OF NEURITIS.

With this brief outline of the characteristics which mark the progress of optic neuritis, let us now inquire, What causes may produce it?

In the first place, it may arise idiopathically, without any obvious cause, or from exposure to cold, disorders of menstruation, etc. Such cases are, however, very rare.

Secondly, it is sometimes caused by constitutional diseases, such as anemia, chlorosis, leucocythemia, scarlet fever, typhoid fever, measles, and by such diseases as diabetes mellitus, albuminuria, lead-poisoning, etc.

Thirdly, it may be due to intra-cranial disease, intra-cranial tumors producing by far the largest number of cases.

Fourthly, it may be caused by some disease within the orbit, such as cellulitis, orbital tumors, narrowing of the optic foramen by hyperoctures, etc.

Optic neuritis is, with rare exceptions, always double, unless the cause lays within the orbit. When monocular neuritis has been caused by brain tumor, it has occurred on the side opposite to that of the tumor.

Neuritis, as a rule, presents nothing which distinguishes its cause. An exception, however, may possibly be made when it is caused by albuminuria, or, perhaps, by one or two other diseases. But even then the exception could not apply, were it not for an association of changes in the retina which are distinctive of those causal diseases.

The physician determines the true cause of neuritis, first, by inference, attributing it to that affection, or class of affections, which most frequently produce it; second, by the associated symptoms and signs; third, by the history of the case. Now, the vast majority of cases are caused by some lesion of the brain, especially some growth or neoplasm. If he sees a case of neuritis, his first inference is that there is a brain tumor, or, if not that, some other brain disease. If the patient also has headache, vomiting, dizziness, convulsions, and other symptoms of brain tumor, the inference is probable. It is further strengthened if the history of the case shows syphilitic infection, or tubercular disease, or malignant disease, either in the patient or ancestors. The inference that the neuritis is due to brain tumor or brain disease, must, however, be changed if the accompanying symptoms, retinal changes, and history point to albuminuria, diabetes, lead poisoning, or other disease.

PATHOGENESIS.

The interesting question, How is optic neuritis produced? claims a moment's consideration. Its pathogenesis in systemic diseases is unknown. Possibly, in some cases an irritant in the blood induces this localized inflammation. In others it may be brought about through consecutive disease of the brain or its meninges. Various theories have been advanced to explain the manner in which intra-cranial disease may produce the neuritis.

Three prominent conditions have been noticed in the pathological anatomy of neuritis: (1) an interstitial inflammation of the nerve, or in other words, an inflammation affecting the connective-tissue, or the inter-fasicular or lamellar structure of the nerve, which is derived from the pial sheath; (2) a distension of the inter-vaginal space with cerebro-spinal fluid, this distension being greatest very near the eyeball; and (3) an edema of the optic disc.

From these and some other conditions have been derived and promulgated four hypotheses which, either singly, modified, or combined, are variously accepted to-day in explanation of this question:

First. That the neuritis is an inflammation descending from the brain in the nerve to the eye.

Second. That some vaso-motor or reflex influence from the brain induces the inflammation in the nerve and disc.

Third. That pressure within the optic-nerve sheath causes blood-stasis, or lymph-stasis, or both, and mechanically leads to neuritis. (Von Graefe advanced the theory of blood-stasis caused by intra-cranial pressure upon the cavernous sinus.)

Fourth. That the cerebro-spinal fluid is forced into the inter-vaginal space around the optic nerve, and produces not only distension, but carries with it pathogenic or infectious material, which causes inflammation by its entrance into the lymph-spaces of the nerve and disc.

The pathological, and, perhaps, the clinical appearances seem to point to more than one mechanism in producing this disease. That the inflammation does descend from the brain seems to account most rationally for those cases where there is no distension of the nerve-sheath. That distension of the sheath, and consequent compression of the bulbar end of the nerve, produces stasis of the outflowing blood- and lymph-currents from the eye, and results in edema and other changes of the disc, seems to be a reasonable explanation of those cases where the disc principally suffers, and the nerve-stem is very little inflamed.

Mr. R. Brudenell Carter, of London, has clinically reinforced and strengthened the present theory of "choked disc," whether the changes be brought about by stasis (as he holds), or by Deutschmann's infective material in the distending fluid. He has reported four cases of double "choked disc," with impaired vision, in which, by a special operation and special instrument, he has opened the optic-nerve sheath and drained the inter-vaginal space. The operation was performed only on the left eye, but the result was a rapid subsidence of the disease in both eyes, and a restoration of the vision, more or less complete, in each case. What greater proof could be offered of the truth that "choked disc" may be caused by the presence of fluid in the inter-vaginal space, which either produces compression around the optic-nerve entrance and stasis, or carries with it an infective irritant from the diseased brain and lights up the inflammation of the disc and nerve?

SIGNIFICANCE OF NEURITIS AS A SYMPTOM.

So seldom is double optic neuritis a primary idiopathic affection, and so generally is it secondary to some other disease, that it may be practically regarded as a symptom. And so seldom, also, is it secondary to any but brain affections, that it may further be looked upon as a symptom of such affections. And limiting it still further, as it is in brain-tumors that it occurs in the great majority of cases, it becomes, therefore, in a somewhat qualified sense, a symptom of brain tumors. Furthermore, not only is neuritis due to intra-cranial tumor in such a large proportion of cases, but it is said to be present in at least four-fifths of those afflicted with such tumors.

Thus it has its greatest and most distinctive significance as a symptom of growths within the cranium, and as such is of great value. And yet it does not in any way indicate what the character of the growth is,—whether it is malignant or benign, solid or cystic, small or large, old or recent, slow or rapid in its progress, an aneurism or an abscess, or single or multiple. It may barely suggest the location of the growth, as it has been found to occur much more frequently when the lesion is in the cerebellum and basal ganglia, than in the convexity of the brain. It cannot, however, be considered in the light of a localizing or defining symptom. Like headache, vomiting, vertigo, convulsions, etc., it must be classed with them as a general symptom. But it greatly outweighs them, as such, in value. This becomes apparent when it is remembered that it is found only exceptionally in other diseases, and is present in a large proportion of cases of brain tumor. Moreover, it is an objective sign, which can be recognized by the physician independently of the statements of the patient. In other words, it has a restricted significance, which the other symptoms do not possess. Thus, headache is an important symptom, but this, even persistent and severe, is often present in other diseases. Vomiting, without obvious cause, occurs in brain tumor, but it is found in a variety of other conditions. Vertigo is often present as a symptom, but there is nothing in it which distinguishes it from vertigo of aural or other disease. Convulsions, initiated by loss of consciousness, are another symptom, but they do not differ essentially from those of epilepsy. Mental disturbances also arise, but they are much more frequently due to other causes. Not so with double optic neuritis. This is seldom found outside of brain tumor. Hence it has a value in the diagnosis of this disease which is not possessed by any or all other symptoms,—a value which is too precious to be lost. With it, a certainty is given to the diagnosis; without it, there is much more uncertainty, and a large number and variety of other

symptoms are necessary to remove the doubt. With that assurance which its presence with other general symptoms and history gives, and with the "focalizing" light which may be added by the so-called focal symptoms, such as local palsies, local spasms of various kinds, convulsions, beginning always at a certain part, affections of speech, local disturbances of sensation, hemianopsia, affections of taste, smelling, and hearing, etc., the physician is often enabled not only to arrive at a correct diagnosis, but he can determine the character of the growth, and give its precise location. Further, with such a result in diagnosis, he can confidently direct the proper treatment for the greatest relief of his patient, even to pointing out just where to cut to secure its removal, and thus making possible an operation which has become the greatest triumph of modern surgery.

212 FRANKLIN STREET.

HEMORRHOIDS—THEIR DIAGNOSIS AND TREATMENT.

BY EDWARD CLARK, M. D., Buffalo, N. Y.

SINCE I have been engaged in the practice of rectal surgery as a specialty, I have received a number of requests from some of my professional confrères, to prepare, for publication, an article on the subject which forms the title of this paper. In complying with this request, it will be my aim to group the salients of this subject for convenient reference by those who feel interested therein—to present a *rêsumê* of the most approved methods adopted by rectal surgeons in the management of this malady—rather than to set up original or new claims for special methods of dealing with it.

I am convinced, both by observation and experience, that the profession generally is possessed of only a vague and indefinite knowledge of the proper management of this very common and distressing affection. Absence of special instruction and want of opportunity to study this class of diseases, with a lack of the proper facilities for diagnosis and treatment, have led to this want of familiarity with the subject on the part of the profession.

Rectal disorders are, perhaps, as common as any class of diseases to which flesh is heir, and they are productive of a vast amount of suffering and misery, as the rectum has to do with one of the most important functions in the human economy. A degree of nervous depression and an anxiety of mind are frequently met with in patients suffering from rectal troubles, which is truly astonishing and out of all proportion to the severity of the disorder itself. To many physicians, rectal diseases seem so repulsive and unattractive, that their pathology

and treatment have not received that degree of thoughtful consideration to which their importance entitles them. This apathetic attitude of a majority of the profession toward this important field of study has been the most powerful agency in relegating the treatment of these distressing maladies to the domain of quackery. Patients suffering from rectal diseases apply to their family physician for relief, and after becoming discouraged and disgusted with the *attempted methods* of treatment resorted to, at last become the prey of ignorant pretenders, whose flaming advertisements so easily captivate the minds of those who suffer from chronic ailments.

I have used the term "attempted methods" of treatment, because both observation and experience lead me to believe that aside from those practitioners who are regularly engaged in a surgical practice, there are very few physicians, indeed, who ever attempt to do anything in the way of a radical cure for hemorrhoids. They simply content themselves with making a few futile efforts at mitigating the sufferings of their patients with piles, by the use of ointments, laxatives, enemata, and the like. This indifference, on the part of the profession, relative to the treatment of piles, has been the means of infusing into the minds of many of the laity the erroneous conviction that the hemorrhoidal disease is an affection presenting but slight prospects for alleviation, and, acting under the belief that "what cannot be cured must be endured," they drag out a wretched existence, suffering more or less from an affliction which of all maladies is, perhaps, most readily amenable to proper treatment. I verily believe that there are physicians who labor under the delusion that hemorrhoids are incurable, as witnessed by the remark of one, who, when consulted by a patient with a bad case of piles, told him that if he could cure that disease he would be able to ride in a chariot of gold.

Success in the treatment of rectal disease, more especially hemorrhoids, rests very largely upon the physician's ability to make a correct diagnosis in each and every case presenting itself to him for treatment. In the majority of cases this cannot be done without a most thorough and careful examination. Specula of various kinds may be used, and one familiar with their proper use may learn much by this method of examination; but to the inexperienced, the results of specular examination, as a rule, are very unsatisfactory. Digital examination is generally fruitful of much valuable information. The only way, however, to make a thoroughly satisfactory examination of the rectum, is to stretch and temporarily paralyze the sphincter ani muscle, in order that at least the lower three or four inches of the rectal mucous membrane may be brought into view and carefully examined. The

surgeon who always pronounces a positive opinion on a rectal disorder, without such examination, will sooner or later fall into grave errors which may injure his reputation not a little. In order to make this examination properly, it is necessary to resort to the use of an anesthetic; to stretch the sphincter muscle, as has been done, without anesthetizing the patient, is a barbarous and cruel procedure which cannot be too strongly condemned. A great many patients object seriously to taking an anesthetic for diagnostic purposes; but if they are informed that any operation which may be necessary, can be done at the same sitting, we will, in the majority of cases, perhaps, be able to overcome their objections to the anesthesia.

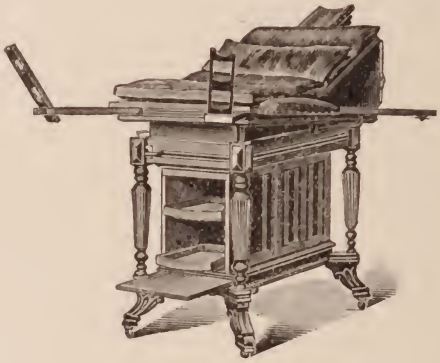


Figure 1.

For office examinations, a firm examining chair, or table of some kind, is necessary. The number of these now offered to the profession is legion. Some of them reflect great credit on the skill and ingenuity of their inventors, but many others, in my opinion, are too complicated to be of much practical utility. One of the best that I have seen,

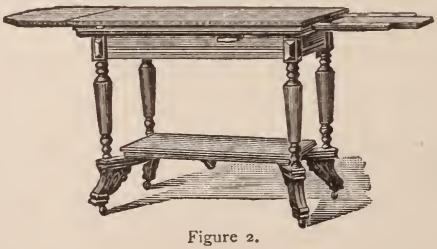


Figure 2.

and the one I use in my office, is that invented and manufactured by Dr. B. H. Daggett, of this city, known as the "Daggett operating and examinir g table," which, when not in use, makes a very convenient and ornamental office table.

Figure one shows the table when ready for use, and figure two shows it opened and extended for general anesthesia, or any surgical examination.

I am in the habit of directing my patients to take a brisk cathartic on the evening preceding the expected examination, and on the following morning after the bowels have been emptied, to wash out the rectum two or three times with warm water. This cleanses the bowel thoroughly, and nothing is left to interfere with the examination.

Having thus prepared the patient, we now proceed to make our diagnosis. It may seem to some that to diagnosticate hemorrhoidal troubles is essentially an easy matter. This is true, so far as the expert is concerned, but it certainly is not true as regards the average general practitioner, many of whom take a patient's word for it, that he or she has piles. During the past two years I have had a number of patients sent to me by reputable and highly intelligent physicians to be treated for hemorrhoids, when a careful examination would reveal the fact that they were suffering from some affection of the rectum other than such disease. One case was sent as hemorrhoids, which proved to be a fissure of the rectum; another patient who was supposed to have hemorrhoids, was suffering from papillomatous growths in the rectum; another had rectal polypi; and still another chronic ulceration with condylomatous growths around the anus. I cite these few cases, simply to show that a correct diagnosis in cases of rectal disease is not always made by physicians. We meet with many cases of pruritus ani, which are styled by patients and by many physicians as itching piles. My experience is that in these cases the itching and burning, which are so distressing to the unfortunate patient, are generally secondary to some trouble inside the rectum, as ulceration or some other disorder, upon the cure of which the itching and burning speedily disappear.

Kelsey defines hemorrhoids as "varicosities of the anal or rectal vessels." Hence, an external hemorrhoid is an affection of the subcutaneous vessels of the ano-rectal region, and is situated below the sphincter ani muscle. It consists, generally, of an enlargement, or rupture of a vein, outside of the anus. When the vein ruptures or breaks, a clot of blood of greater or less size is formed in the subcutaneous cellular tissue. This form of hemorrhoid, generally, comes on quite suddenly, and forms a tense, painful, bluish tumor, situated just at the verge of the anus. When the external hemorrhoid is due to a saccular dilation of a vein, its growth is more gradual, and is always, of course, aggravated by straining at stool. If left to themselves, either of these forms of growth undergoes changes. The clot

may become absorbed and the growth disappear; or the clot may remain for a greater or less period of time; the tumor then becomes hardened, less painful, and finally results in tags or tabs of skin which are also known as a variety of external hemorrhoids. An external hemorrhoid, when first formed, is extremely painful and annoying, causing a degree of suffering and uneasiness out of all proportion to the magnitude of the affection. If not properly treated at this time, it sometimes becomes greatly inflamed, and may result in suppuration. The treatment of this variety of hemorrhoids is quite simple, and followed by almost immediate relief from suffering. All that is necessary is to incise the tumor in its longitudinal axis and turn out the clot completely. This little operation, formerly so painful, may be done almost painlessly, by first drawing along the line of incision a wooden tooth-pick dipped in pure carbolic acid. After the cavity is thoroughly emptied of its contents, a shred of lint may be loosely placed in it to prevent primary union, and the patient instructed to wear a wad of absorbent cotton, and, perhaps, a bandage for a few days, to prevent soiling his linen.

External hemorrhoids are always venous, but an internal hemorrhoid may be venous, arterial, or capillary.

External hemorrhoids, in many cases, do not drive the patient to seek surgical advice, but patients suffering from internal hemorrhoids, are sooner or later—generally later—compelled to seek professional advice, owing to the train of morbid phenomena that always follows in the track of internal hemorrhoids.

Internal hemorrhoids always tend to grow worse if left without treatment, and it is unfortunate that a sense of false modesty keeps many patients, especially women, from consulting a physician for this very common and distressing, but easily cured, malady. As a genuine fact, it may be stated that an internal venous hemorrhoid is an affection of the internal hemorrhoidal veins. It will be remembered that these veins pass upward beneath the mucous lining of the rectum, and pass through the muscular coat, through little "button-hole" like openings; they then unite with other venous trunks and help to form the portal vein. The superior hemorrhoidal veins have their origin in little blood sacs, which lie beneath the mucous membrane, just above the anus. Each one of these little sacs is connected by a small anastomatic venous twig with the external hemorrhoidal veins, thus establishing a direct communication between the portal and general venous systems. Some writers hold that these little blood sacs are incipient hemorrhoids, that enlarge principally by the contraction of the muscular fibers surrounding the button-hole like foramina through which the internal

hemorrhoidal veins pass from the rectum. I am inclined to believe, however, that these little blood sacs, or venous spaces, are normal anatomical structures. I am also inclined to the belief that pressure on the veins from various causes, such as constipation, straining in defecation, and portal obstruction from whatever cause, is more important as an etiological factor in internal hemorrhoids, than the contraction of the so-called "button-holes" in the muscular coat of the rectum.

Internal hemorrhoids are liable to be confounded with prolapse of the mucous coat of the rectum, and with polypoid growths and papillomata. In prolapsus, the portion extruded from the anus, generally, completely encircles the anal aperture, and has, unless permanently outside of the body, the bright red color and appearance of the normal mucous membrane. When an internal hemorrhoid of the venous variety is pressed below the sphincter ani muscle, it appears as a tense rounded or oval-shaped tumor of a bluish red or purple color. When some degree of prolapse accompanies it, there will be seen a distinct furrow of separation between it and the hemorrhoid, and the contrast between the colors of the protruding masses is very striking indeed. If the hemorrhoid partakes of the arterial character, it is generally somewhat lighter in color, and when strongly compressed by the sphincter muscle, a small jet of arterial blood is not unfrequently seen to issue from it *per saltem*. The capillary, or, perhaps more properly, the arterio-capillary hemorrhoid, is the form which, in my experience, is attended with the greatest amount of hemorrhage. This variety is rarely ever seen outside of the rectum, and consists of an elevated, roughened, aggregation of small capillary and arterial twigs under the rectal mucous membrane. The surface of this growth becomes, by friction and pressure, broken and evoked, and from which, especially after defecation, there escapes quite a copious discharge of blood. This growth properly constitutes the so-called "bleeding piles," about which we hear so much from the laity.

TREATMENT.

I shall add nothing to what I have already said on the treatment of external hemorrhoids.

The treatment of internal hemorrhoids may be discussed under the two heads of operative, and non-operative, or palliative.

The non-operative or palliative measures are, perhaps, most resorted to by the ordinary practitioner. They do not, in severe cases, very often effect a cure, but in recent cases, before structural changes of any great extent are brought about, they are, if persistently and faithfully carried out, productive of much good, and greatly relieve the

sufferings of the patients afflicted. Astringent washes, ointments, laxatives, enemata, hot sitz baths, and suppositories all have their place and use as palliative measures. Every physician is familiar with the therapeutic uses and mode of action of the above-named agents, and it would be out of place and a waste of time for me to discuss them in detail at this point.

One thing, however, that must be cautiously guarded against, in the palliative treatment of hemorrhoids, is constipation. If this condition is allowed to prevail, all efforts at palliation of the trouble will be in vain. This condition acts as a great evil in hemorrhoidal troubles, by compressing the hemorrhoidal veins, and it should be obviated and removed by such of a combination of medicine, exercise, and regulated diet, as will secure, at least, one soft unirritating passage of the bowels daily.

Among the astringents, which may be useful as palliative measures, we find tannin, alum, zinc sulphate, acetate of lead, carbolic acid, and extract of hammamelis. These different agents are used in various combinations, and of different strengths according to the indications to be met in individual cases. Among the drugs, which are useful in suppositories, we may mention opium, cocaine, belladonna, iodoform, and bismuth. The two last named, combined with cocaine, have given me much satisfaction. It should be borne in mind, that washes containing any drug should not, as a general rule, be more than one-third as strong as ointments containing the same substance.

The object to be attained by the use of any astringent wash or ointment, is to get a mild astringent effect, instead of an irritation which will produce expulsive efforts on the part of the rectum.

If the above means are intelligently applied, and the patients kept for some time in the horizontal position, much may be done to mitigate the sufferings of those patients who cannot, or will not, submit themselves to the operative plan of treatment.

Various operative procedures have been resorted to for the radical cure of internal hemorrhoids, such as stretching the sphincter ani muscle, ligature, injection of various substances into the pile, clamp and cautery, crushing, ecraseur, and excision.

Perhaps the simplest of all these methods is that of gradual dilatation of the anal sphincters. The most noteworthy advocates of this method are the distinguished Frenchmen, Prof. Verneuil and M. Fontan. It is claimed by these authorities and others, that the great majority of all cases of internal hemorrhoids can be cured by this method. In resorting to this manipulation, it is necessary to use an anesthetic, as the dilatation must be complete and thorough, and to

accomplish this without an anesthetic is a very painful manipulation, indeed. American surgeons are not so enthusiastic in their praise of this method as the French surgeons. This method is, perhaps, most applicable to the treatment of recent cases, and, perhaps, should receive a trial in those cases where the patients have a horror of the knife, ligature, or cautery.

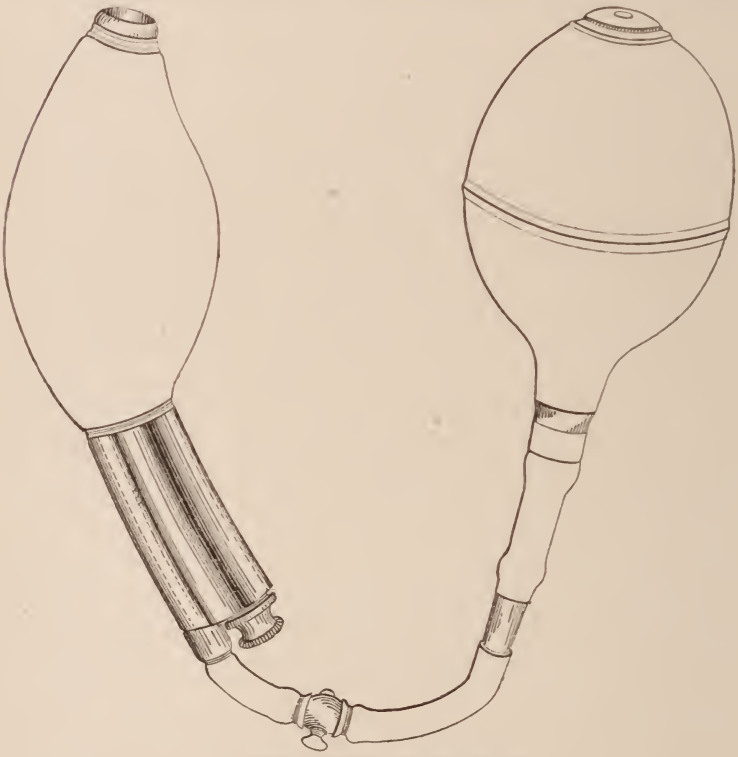
The treatment of hemorrhoids by ligature is very ancient, indeed. Hippocrates and Celsus both speak of it, and describe how "the operation" should be carried out. Allingham, of London, is, perhaps, the most noted advocate of this method of treatment. Many British and Continental surgeons, as well as many of our best American surgeons, also advocate the ligature for the cure of piles. It undoubtedly has many commendable advantages. It is easily applied, and generally followed by satisfactory results. Death after this operation is very rare, indeed. Of 5,863 patients, operated on by Allingham, only six died, or about one in a thousand. I do not think, however, that so far as mortality is concerned, this method of operation is any more safe than operation by excision (Whitehead's method) or the clamp and cautery. While it has its advantages, it also has its drawbacks. My experience is that the suffering of the patient, after the operation by ligature, is infinitely more severe than after the clamp and cautery operation, and the cure is certainly not more complete. I am partial to the clamp and cautery operation, because it is not difficult to perform ; it is followed by perfect results when properly executed, and, as I have said, the sufferings of the patient are not at all severe after the operation. This last advantage is worthy of careful consideration, especially in the case of a sensitive, nervous patient.

Another advantage which the clamp and cautery operation has over that by the ligature, is that it is liable to be followed by much less disturbance of the bladder and consequent use of the catheter.

Some writers claim that dangerous concealed hemorrhage frequently follows the operation by clamp and cautery. I hardly believe this can be true, if the operation is properly performed. When it does occur, it is either due to carelessness on the part of the operator, or it occurs in patients of a hemorrhagic diathesis.

If I have any suspicion that a patient on whom I operate is a bleeder, I make use of an instrument which I devised some time ago, and which is made for me by Tiemann & Co., of New York. I have called it the "antiseptic rectal tampon." It is delineated in the cut, a glance at which reveals its mode of action. The dilating bulb consists of soft rubber, attached to the hard rubber pipe, which passes through it. The hard rubber pipe is hollowed out its entire length,

so that while remaining in the rectum flatus may escape, and, if necessary, the rectum may be washed out without removing the tampon or lessening the pressure on the dilating bulb. It is introduced into the rectum in a collapsed condition, and filled by means of the hand-bulb. When distended to the requisite degree, the small stop-cock is turned and the hand-bulb detached. The air enters the dilating bulb through the small opening of the tube which runs parallel to its large central channel, its inner extremity opening at the side of the large tube inside of the dilating bulb. As the vessels from which the bleed-



The author's Antiseptic Rectal Tampon.

ing occurs come from above downwards, the tampon acts by compressing them above the seat of operation. If any bleeding occurs, it is sure to show externally, as the pressure of the bulb prevents the blood from passing upward into the bowel. It is checked, of course, by increasing the pressure on the dilating bulb. Instead of air, ice water or hot water, may be used to inflate the bulb. This tampon may be used to check hemorrhage from the rectum after any of the operations for hemorrhoids, if it should occur, instead of the method of packing

with sponge and lint, the insertion and removal of which is dreaded by patients more than the original operation.

As my experience with the operation by crushing and excision has been somewhat limited, I shall say nothing about these methods, except that I am very favorably impressed by the Whitehead operation, for the reason that it seems to me to possess many strong points as a scientific surgical procedure. The principal objection to it, so far as I can see, is that when it fails to produce primary union, there is some liability to the formation of anal stricture, owing to the contraction produced by the healing of the wound, which completely encircles the anus.

It is an operation which requires considerable skill and dexterity for its proper performance, and it sometimes is attended with considerable hemorrhage. I shall conclude this article with a few remarks on a method of treating hemorrhoids, which has been highly extolled by some, and vigorously condemned by others; a method which has had claimed for it wonderful results, which claim prolonged experience and careful observation, have shown to be almost entirely without foundation; a method which is now largely practised by the ignorant and illiterate on all cases of hemorrhoids coming under their observation. I refer to the process of injecting hemorrhoids with various substances, chief of which is a combination of carbolic acid with olive oil, or glycerine. That this method has no definite value as a curative agent I do not attempt to affirm, but that it has accomplished all that is claimed for it, and that it is applicable to the treatment of each and every variety of internal hemorrhoid, I do most emphatically deny. While I admit that it is useful in the treatment of a few selected cases, I am certain that the indiscriminate injection of carbolic acid into all varieties of hemorrhoids by persons who do not thoroughly understand the anatomy and treatment of these cases, is a practice which is productive of dangerous results, and one which cannot be too strongly condemned.

Many writers have attributed the discovery of this mode of treatment to the quacks, but it no doubt was first practised by a young physician of Illinois nearly twenty years ago. It was found to produce some very good results in a few cases, and he conceived the idea of selling the right to practise his secret mode of treatment to anyone who was willing to pay him for the privilege. The persons buying this privilege, many of whom were impecunious and unscrupulous physicians, were obliged to purchase from him also all of the solutions which they used in their practice. The western portions of our country, particularly, were soon flooded with the itinerant or traveling

"pile doctors," who went up and down seeking those who, for a consideration of some magnitude, wished to be cured of piles by a painless and harmless (?) method. Their armamentarium chirurgicum consisted of a bottle of carbolic acid solution and a hypodermic syringe. The wonderful tales told of the cures they made, with nothing said of their many failures, induced hundreds to go into this business, so that fortunes were made by those who sold the right to practise the secret system to each other. The medical profession got hold of the secret and lost no time in testing its merits. Many of the best men in the profession were carried away with it, and were as sanguine in their predictions of what it could accomplish as were the quacks themselves. Twenty years of experience and observation, however, have convinced many that this method of treatment has only a very limited field of usefulness, and a careful collection of statistics shows that it has been productive of much harm. In "Andrews' Rectal and Anal Surgery," a work recently published in Chicago, we find the following: "It is the old experience over again. Twenty years ago the profession was charmed by the results of coagulating injections thrown into venous enlargements in other parts of the body, but we were soon stopped by the occurrence of deaths from embolism. The hypodermic injection of piles confronts us with similar dangers.

"The following accidents have been reported out of about 3,304 cases: Deaths, 13; embolism of liver, 8; sudden and dangerous prostration, 1; abscess of liver, 1; dangerous hemorrhage, 10; permanent impotence, 1; stricture of rectum, 2; violent pain, 83; carbolic acid poisoning, 1; failed to cure, 19; severe inflammation, 10; sloughing and other accidents, 35."

Compare this with the records of the same number of cases of operation by the clamp and cautery, or ligature!

Kelsey, who first wrote favorably of this method, now says that he applies the plan mainly to selected cases of completely internal piles of moderate size, and having well-defined pedicles. In the book from which I have made the above quotation (Andrews), we read: "We were long ago reluctantly compelled to admit that these injections are dangerous, and until some way of avoiding the perils is shown we cannot recommend them except in special and selected cases."

The "Brinkerhoff System" of treating piles is nothing more or less than the carbolic acid treatment, and the formula for the celebrated secret pile remedy of this "system" is as follows:

Carbolic acid, one ounce.
Olive oil, five ounces.
Chloride of zinc, eight grains.

In using injections for piles there is a great danger of clots or globules of the injection being carried to the liver or heart. To avoid this some authors have recommended plugging of the rectum for twenty-four hours after the operation.

My rectal tampon, which I have already described, might be useful for the same purpose. It is also useful in these cases when introduced into the rectum and distended. By making downward traction with it, it not only distends the piles, but helps to turn them out of the rectum and keeps them in a position easy for treatment.

In concluding, let me quote again a paragraph from Andrews, which exactly expresses my own views on this subject: "Up to the present time science has not discovered any method of wholly avoiding the risks of the hypodermic injections. The method is moderately, but positively, dangerous, and we cannot recommend it as proper in ordinary cases."

271 Franklin Street.

Society Proceedings.

BUFFALO PATHOLOGICAL SOCIETY.

Regular Meeting, Dec. 20, 1889.

The President, Dr. De Lancey Rochester, in the chair.

Before the regular routine of business, Dr. Herman Mynter presented a patient upon whom he had made a partial resection of the foot for pes varo-equinus, with an excellent result.

The patient, Thomas Chaffee, aged 23, entered the Sisters' Hospital on Oct. 8, 1889, in order to have his leg amputated on account of a pes varo-equinus of the highest degree, complicated with an ulcerated bunion, which had prevented him from walking for the last five years. When five years of age he was run over by a sleigh, producing a dislocation of left ankle. A physician, he says, cut the outer cord. Contraction of the tibialis anticus muscle and of the tendo achilles followed, increasing during the year till he now walks on the dorsum of the foot, which is twisted in such a degree that the big toe almost touches the internal malleolus. During the last five years he has been unable to walk on account of a suppurating bunion of the dorsum of the foot, on the most declining point. If he walks for one week he will have to stay in bed for several months to have the ulcer heal again. He has consulted seven physicians, who all advised amputation.

On Oct. 12, 1889, operation under ether narcosis. An incision was made along the anterior margin of the foot from the anterior part of the calcaneus to the middle of the fifth metatarsal bone. From the posterior end of this a transverse incision was

made over the dorsum of the foot to the scaphoid. The extensor tendons were lifted away with blunt instruments, and with chisel and Wyeth's osteotome a wedge of bone was removed from the anterior side of the foot, containing the anterior three-fourths of the cuboid, second and third cuneiform bones, and the bases of fifth, fourth, and third metatarsal bones. Having in that way shortened the anterior margin, the inner margin of the foot was lengthened by a Phelps operation in front of the malleolus internus, by which the following structures were cut over: Tibialis anticus, tibialis posticus, flexors halluces longus and brevis, abductor hallucis and fascia plantaris. The joints between the astragalus and scaphoid was thereafter widely opened. Lastly, tenotomy of the tendo Achiles was performed. The foot was now, by aid of considerable force, brought in a good position, the wounds sutured with catgut except in the middle, left open for drainage, a strict antiseptic bandage applied, and over that a plaster of Paris dressing. Lastly, the Esmarch was removed and the wounds filled with an antiseptic Schede's blood-clot. The foot was kept raised for 24 hours. Very slight surgical fever followed and scarcely any pain. In six weeks the first dressing was removed and the anterior wound found healed. At the point of the Phelps operation a granulating blood-clot was seen, not yet covered with epithelium. In three weeks more the wound was healed, and with a Kolbe's shoe the patient was then able to walk without pain.

Discharged, cured, with the foot in excellent condition, on December 19th.

DR. WM. C. KRAUSS read the first of three papers on Peritonitis, as follows:

THE PATHOGENESIS AND MORBID ANATOMY OF PERITONITIS.

By WM. C. KRAUSS, M. D.

The subject open for discussion this evening, is that of Peritonitis,—a condition teeming with expanse and limits of observation, accuracies and errors of diagnosis, facilities and perplexities of treatment—all dependent upon the observer.

Few, if any, of the inflammatory changes can be approached from so many sides, as the inflammatory state of the peritoneum. The physician, surgeon, gynecologist, and obstetrician, find in it a field rich in thought and action. Through its agency many have signaled success and renown, and among this number America is credited with some of the first and foremost.

Peritonitis is an inflammatory condition of the serous membrane of the abdominal cavity. It may be general or localized; when localized, it takes the name of the viscus in which resides the inflammation. An acute local peritonitis may become rapidly general, or it may remain circumscribed and terminate in resolution. Peritonitis may occur at any age, and at any time, spares neither the robust nor feeble, knows no sex, and no station.

The etiology of peritonitis varies according to the insult. That insult may be purely medical, as in perityphlitis with ulceration;

surgical, or traumatic, as in gunshot wounds of the abdomen; gynecic, as in the rupture of ovarian cysts; parturient, as seen in septic processes, as puerperal fever.

Peritonitis, due to a medical insult, may be acute or chronic. The acute form may be either idiopathic or secondary. Idiopathic peritonitis is, however, of very rare occurrence. In those cases where a definite cause is unrecognizable, it is termed idiopathic, yet, if an autopsy were made, fully ninety-five per cent. of such cases could be classified under secondary peritonitis. The etiology of such cases, if such occur, has been ascribed to sudden changes in the temperature of the intestine, excesses in food and drink, intestinal irritants, etc.

The secondary form claims most of our attention. Here the causes are legion. A careful study of the tissues and neighboring tissues, organs and neighboring organs, of the abdominal cavity,—in fact the whole of human anatomy, with the possible exception of the cranium and extremities,—is necessary for a perfect comprehension of what *might* and *has* produced an inflammatory condition of the peritoneum.

Among the most prolific causes of peritonitis due to a medical insult, are lesions of the intestinal canal. As such, perhaps, none are so productive as perforating ulcers of typhoid fever, and ulcerating typhlitis and perityphlitis. Other causes may be mentioned, such as proctitis and periproctitis; syphilitic, or tubercular ulcers of the intestine; strangulated hernias, intestinal intussusception, volvuli, impaction, etc. These are some of the affections of the intestinal canal, which, through perforation, ulceration, or extension of the inflammation, may encroach upon the peritoneum. Among the most fruitful of hepatic disorders, are hepatitis and perihepatitis, rupture of hydatid cysts, obstruction and rupture of the gall-bladder or duct, cirrhotic conditions, and neoplasms. Inflammatory conditions of other organs as splenitis, pancreatitis, nephritis, cystitis, cancerous, syphilitic or tubercular neoplasms of the various organs, ruptures, as of the uterus, bladder, abdominal, aneurisms, receptaculum chyli, hydatid and other cysts. These all may set up peritoneal inflammations. In children, gangrenous inflammation of the umbilical vessels, and incomplete descent of the testicles have been known to produce inflammatory states. During the course of septic and other processes,—as septicemia, pyemia, erysipelas, rheumatism, etc.,—the peritoneum is occasionally drawn into sympathy.

Surgical or traumatic insults play an important role, and are among the most fertile factors in effecting a peritonitis. Here judgment, above all, is requisite on the part of the observer, in recognizing the probability and consequence of trauma as an etiological factor.

Gunshot and incised wounds of the abdomen are of too frequent occurrence to need comment. Direct trauma to the abdomen resulting in the rupture of some internal organ, unsuccessful or blundering laparatomies, the rupture of abscesses due to caries of the vertebræ, ribs or pelvis, are some of the surgical agencies which must not be omitted in this connection.

Gynecic insults are more or less local, calling forth a pelvic peritonitis, which very often becomes general. As such, gonorrheal infection may be considered as most habitual and most universal. Rupture of ovarian cysts, ovarian tumors, the extension of uterine inflammations, injection of irritant fluids through the Fallopian tubes, uterine congestion following disordered menstruation, lymphangitis and phlebitis of the uterus are some of the recognized causes of pelvic peritonitis.

Parturient insults are among the most obstinate, most common, and saddest sources of this inflammatory process. Here the enactment of physiological laws terminates in pathological conditions and sequels. Foremost among the parturient causes is the septic process designated puerperal fever, rising step by step, though endometritis, metritis, peri- and parametritis, cellulitis terminating in peritonitis. Rupture of the vagina or uterus, extra-uterine pregnancy, accidents consequent to abortions, miscarriages, and the use of instruments, give rise to disturbances which pass into inflammatory conditions, and in many cases decide a peritonitis.

These are some of the etiological factors to be considered in discussing the origin of acute peritonitis. Other causes might have been mentioned, but the list already impresses one with the importance of judging insidious affections as causative of a more serious and many times a fatal disease.

Chronic peritonitis is often a sequel of an acute form; it may also follow upon an ascites, Bright's disease, tubercular or cancerous disease of some of the abdominal organs, conditions setting up long-continued irritations, etc.

The pathology of peritonitis is that of a serous membrane. But in no serous cavity can the propagation of bacteria take place so rapidly and so extensively as in the peritoneal. The ingress of micro-organisms is comparatively easy. The many avenues of approach, both internally and externally, the almost complete absence of protective structures, and the facility and ease with which neighboring processes extend into it, render it a fertile field for the reception and development of septic germs. Micro-organisms once within this cavity find in its congenial temperature—in the peristalsis of the intestine—in the

circulation of the peritoneal fluids, and extensive development of the lymphatic system, agencies unequaled for the promulgation of their cause, and that cause is disease. It follows that most of the imflammations of the peritoneum are septic in character, due to the presence of micrococci.

Some of the more potent factors of septic inoculation are gunshot and incised wounds of the abdomen, perforating typhoid ulcers, puerperal fever, and gonorrheal infection. The onset of the inflammation is preëminently acute, and in a short space of time may become purulent,—or the absorption of sepsis may take place so rapidly as to produce septicemia before an inflammation can be developed. In the first case there follows a marked congestion and engorgement of the capillaries of some portion of the visceral or parietal layer of the peritoneum. This then becomes rapidly general, having its greatest intensity at the starting point of the inflammation. Ecchymosis and extravasations may occur, giving the peritoneum a mottled appearance. It becomes dry—lustreless—owing to the desquamation of endothelial cells, and so loses its natural glistening appearance. The first stage is now completed—the stage of invasion or inflammation.

Subsequent to the engorgement of blood-vessels denoting a vasomotor disturbance, there follows conditions of the vessel walls permitting the exudation of serum-lymph and leucocytes. Simultaneously we find swelling and multiplication of the endothelial cells.

The exuded lymph may form a coating on the free surfaces—producing a soft, thin yellowish layer—with this characteristic that it is highly adhesive. As a result, neighboring surfaces become adherent, the intestines are matted together or bound down to certain organs. We meet this circumstance very often in pelvic peritonitis. Serum may collect in the dependent portions of the abdomen, as in Douglas's pouch, and may become fibrinous, purulent, or hemorrhagic. In the majority of cases it becomes purulent. The visceral peritoneum is not dormant while the changes are going on elsewhere. The endothelial cells are separated and fall off in large patches, thus exposing the subperitoneal connective tissue which soon becomes infiltrated with serous fluid and leucocytes. The subserous, muscular, and mucous coats become edematous, swollen—paralysis of the muscular coat follows—giving rise to that pathognomonic symptom, meteorism.

Purulent peritonitis, if general, proves almost necessarily fatal.

We may have another form of acute general peritonitis, characterized by the absence of an exudate. This form has been denominated *cellular* peritonitis. Here the changes taking place in the endothelial

cells are of prime importance; proliferation of these cells coating the surface of the peritoneum occurs, they become increased in size, and give the peritoneum a jagged appearance. The intestines are intensely hyperemic, but show no sign of a fibrinous exudate. Characteristic of this form of peritonitis is the absence of serum, fibrin, and pus.

In acute, local peritonitis we find the inflammation limited to a circumscribed area by the formation of adhesions, thus limiting further spread. Here we find the peritoneal cavity free from any exudate, and the intestines retain their smooth, glistening appearance.

In chronic peritonitis, both local and general, we may find the presence of adhesions matting the neighboring surfaces together, or it may show itself in the hypertrophy of the peritoneum, both visceral and parietal, or we may have the presence of a purulent serum, or blood in the abdominal cavity.

Tubercular peritonitis appears also under the chronic form, and may present three different varieties: 1, The predominance of adhesions; 2, of fibrin; 3, of serum, as ascites.

The acute form is, however, of paramount importance to the physician. Herein he is capable of showing his skill and tact as a clinician and therapeutist.

The next paper was that of Dr. H. R. Hopkins on the Symptomatology, Diagnosis, and Medical Treatment of Peritonitis.

[The MS. of this paper was not furnished for publication.—Ed.]

Dr. Herman Mynter read the concluding paper on the Surgical Treatment.

SURGICAL TREATMENT OF PERITONITIS.

By HERMAN MYNTER, M. D.

The question assigned to me to-night is: The Surgical Treatment of Peritonitis. I might answer the question with one word, laparatomy, at least as a preliminary operation, and correctly, if by peritonitis is meant universal peritonitis, but wrongly if certain forms of local peritonitis, which may be opened by extra-peritoneal operations, are included. The question, too, implies that there is a medical treatment of peritonitis, and while acknowledging that occasionally cases of even diffuse peritonitis recover without operative treatment, I stoutly maintain that peritonitis *per se* is exclusively a surgical disease, can be treated successfully in the great majority of cases only by surgeons who are able to interfere operatively at a moment's notice. Too often surgeons are called in after the case by procrastination has become hopeless, and the unpleasant duty is thrust upon them of sharing the responsibility of signing the certificate of death. Some forms of peritonitis demand immediate operation, as those dependent upon gunshot

wounds, perforations of the bowels, internal strangulations, etc. Other forms, particularly of local and circumscribed peritonitis or those septic forms following operations, are less urgent, and allow the institution of a medical treatment, at least for a short time. I am, therefore, unable to answer the question without stoutly referring to the etiology, and probably going over the ground again covered by the previous speakers. In regard to etiology I would distinguish between several classes.

1st. Those cases dependent upon rupture of a hollow viscus with entrance into the peritoneal cavity of the contents of the viscus, be it feces, urine, or bile, and be the rupture the result of ulceration, as in ulcers of cecum, duodenum and stomach, or of rupture of typhoid ulcers or else of accidents, as gunshot wounds, stabwounds, falls, etc.

These cases demand immediate operation,—at most waiting till the collapse disappears,—and all medical treatment and procrastination ought to be absolutely discouraged. We gain nothing by waiting; our object is to remedy the injury before the peritonitis has become universal. Opium, if given freely, may moderate the severe symptoms and lead us to the delusion, fatal to the patient, that he is improving; purging, according to Baldy's method (to be mentioned later), can only make things worse if the bowels be perforated, by making their contents thinner, so that the fecal material easier passes the perforation and enters the abdominal cavity. The depletion of the peritoneal blood-vessels, produced by the purging, can scarcely counterbalance the injurious effect of the increased peristaltic movements from the same cause, or the increased amount of fecal matter entering the abdominal cavity.

2d. As a second class I would mention those cases of diffuse peritonitis dependent upon the introduction of septic material into the abdominal cavity, be this the result of a laparatomy or herniotomy; the extension from, or perhaps the rupture of, a pyosalpinx, or a suppurating ovarian tumor; the rupture into the abdominal cavity of an abscess from somewhere else, as liver, kidney, or an extra-peritoneal abscess containing pus and nothing but pus; the extension to the peritoneum of septic inflammations from the womb during puerperisms or from gonorrhea; or, lastly, those rare forms, the cause of which we do not know, but which we call rheumatic peritonitis. Perhaps internal strangulations, ileus, volvolus, etc., etc., ought to be mentioned in this division. In these cases we may, perhaps, delay a little, and try different methods. The opium method, introduced and recommended by Austin Flint and Alonzo Clark, acts as a splint on the bowels, so to speak, by preventing peristaltic movements, and might

help to produce a local peritonitis by giving adhesions a chance to form. But often we are lured to procrastination too long by the amelioration of the subjective symptoms. I am inclined to think that Baldy's purging method, published in the *Medical Standard* of October, 1889, is the more reliable method. It is recommended by Lawson Tait, too, particularly in cases of septic peritonitis. Besides operative treatment Baldy puts his main reliance on derivation to the alimentary canal by aid of strong cathartics, particularly those that produce copious, watery discharges, as the salts of magnesia. The treatment, to be sure, is in direct opposition to the teachings of most modern authors. In cases of universal peritonitis he gives ℥i. sulph. magnesia at a time, using four or five doses with proper intervals, till at least eight or ten or more copious, watery evacuations occur. If it is vomited up, he tries large doses of calomel. He declares that Flint and Clark had only failures by using cathartics, because they only tried to get one evacuation instead of many. Baldy insists upon that his results justify the treatment. The improvement, he says, follows immediately or not at all, and we do not run the risk of losing previous time as in the treatment with opium. The depletion of the blood-vessels following the copious evacuations more than counterbalance the possible injury from having the inflamed peritoneal surfaces rub against each other, the inflammation decreases, tympanitis and pain moderates, the exudation is easier absorbed, and adhesions are prevented by the peristaltic movements. Baldy does not recommend the treatment in all forms, nor maintain that it is always successful, but he believes that the surgeon by its use, or rather by its failure, will know when to operate, which he cannot do if opium is used. If no improvement follows, he advises immediate operation. He does not, of course, advise cathartics in those cases I have mentioned under class one, but refers more to the cases mentioned in class two, although he considers several of them demanding immediate operation, as suppurating ovarian tumors, pyosalpinx, abscesses of liver or other organs. He particularly recommends his method in peritonitis for which we can discover no cause, and states that in twenty-four or thirty-six hours we will then know what to do. If no improvement follows in that time, he advises to operate and to try to find and remove the cause. Irrigation and drainage must supplement every laparatomy on account of peritonitis.

Baldy's conclusions are:

1. If immediate operation is not indicated, use laxatives.
2. If unsuccessful, operate.
3. Remove the cause if possible.
4. And then use irrigation and drainage.

I have lately used this method in a case in which serious symptoms of peritonitis followed a prolonged and very difficult operation for an enormous strangulated umbilical hernia, containing besides omentum the whole transverse colon. The result was immediate and most gratifying, all the symptoms promptly disappearing. When he advises the same treatment in local peritonitis or perityphlitis, I cannot follow him, for reasons to be mentioned later.

3d. As a third class we might mention certain forms of chronic peritonitis, dependent often on tuberculosis or else on chronic inflammations with adhesions resulting from pelvic peritonitis, and forming incapsulated exudations. Uterus, ovaries and tubes may participate or not; in the latter case laparatomy alone is often successful without the removal of the sexual organs; in the former case the different operations for the removal of the uterus, ovaries and tubes may become necessary. Spaeth, (Annals of Surgery, August, 1889,) reports four cases of tuberculosis peritonitis treated at Prochownick's clinic in Hamburg by laparatomy. All were females, of ages ranging from thirty-two to forty-three years. The symptoms differed greatly, but tuberculous bacilli were found in all. The author considers this of importance, as many cases, which are considered of tuberculous origin, are simply peritonitis with a nodular formation,—a simple lymphoma of the peritoneum, and the prognosis therefore better. The first case died of collapse in five days, the second of acute phthisis in three months, and the third and fourth of intestinal tuberculosis.

The author's conclusions are:

1. In primary tuberculosis of peritoneum, without implication of other organs, laparatomy may act as a curative agent, and is to be recommended.

2. If tuberculosis be present in the female sexual organs too, operative treatment has not given any satisfactory results.

3. If the tuberculosis is due to a tuberculous enteritis, the operative treatment is only palliative.

4. In genital tuberculosis unaccompanied by peritoneal tuberculosis, early radical operation is to be urged.

Prochownick, himself, thinks that much of the success claimed for operative interference in tuberculous peritonitis, is due to errors in diagnosis. His conclusions are, that in cases of chronic peritonitis in which extensive omental adhesions exist, laparatomy is indicated. He also calls attention to the fact that chronic peritonitis, in many cases, produces the symptoms for which castration is practised. Schroeder and Martin regard the accompanying chronic peritonitis as the causative factor in the majority of cases of öophoritis

and diseases of the tubes, and, therefore, advocate conservative treatment. Laparatomy is often followed by adhesions, and these may be prevented by loosening any adhesions already present, by avoiding strong antiseptics, by removal of contused omentum, strict toilet of the peritoneum, and lastly, by not giving opium before or after operation.

It is difficult for me to see what influence a simple laparatomy, even when irrigation and drainage are added, could possibly have in tuberculous peritonitis, pure and simple, and I cannot help believing with Prochownick, that in successful cases there must have been errors of the diagnosis. The peritoneum is very similar to the synovial membrane of the knee-joint, for instance. Does anyone believe that incision, followed by drainage and irrigation, would be of any use whatever in a case of tuberculous synovitis. Would not all scorn such an idea and advocate the radical treatment of arthrectomy? That incision, irrigation, and drainage, may be an excellent and curative treatment in chronic forms of synovitis without tuberculosis, will not be doubted by any surgeon. I never saw a case of tuberculous peritonitis myself, or failed to recognize it if I did, but from theoretical reasons I am strongly inclined to believe that successful cases of laparatomy in primary tuberculosis of the peritoneum depend upon errors of diagnosis. That laparatomy may be successful if tuberculous sexual organs, primarily affected, be removed, stands to reason, and it is an entirely justifiable operation, provided all diseased tissues be removed. Spaeth's statement that operative treatment fails or is only palliative, if besides tuberculous peritonitis tuberculosis of the female sexual organs or tuberculous enteritis be present, rather proves that my conclusion is correct. That operation is useless, unless the diseased tissues be removed in toto. It would, in my estimation, do a patient as much good to remove the tuberculous sexual organs and leave a tuberculous peritoneum behind, as it would do good to remove a local tuberculosis focus from the lower epiphysis of the femur and leave the tuberculous synovial membrane behind.

4th. As a fourth class, I wish to mention certain forms of local peritonitis, referring particularly to perityphlitis, because several questions of importance to the surgeon are still being discussed, and because I consider the treatment by purging, advocated by Baldy, directly injurious in cases of circumscribed perityphlitis, and little less than fatal if universal peritonitis be present, from either primary perforation of the cecum or secondary perforation of a local abscess. As I expect to read a paper shortly in the Buffalo Medical Association on this subject, I will here only mention, that in all cases of perityphlitis

I consider the opium treatment of the greatest importance. While Dr. Rochester, for instance, lost seventeen out of twenty-three cases, I have had eleven recoveries in eleven cases, five after operation. The important point is to keep the patient at rest, bodily and mentally, in order to prevent, if possible, perforation into the abdominal cavity, and in order to keep the abscess circumscribed until you can open it by extra-peritoneal operation, after Gurdon Buck's method.

If perforation occurs, primarily or secondarily, laparatomy is the only remedy, and ought to be done promptly, at most waiting till the symptoms of collapse following the perforation have disappeared. All surgeons agree now upon this point, the only difference being in regard to the time when it ought to be performed. Enough cases of early successful operation are on record to convince the most sceptical of its advantage, and still more convincing are the unfortunately still frequent cases of death following the expectant or medical treatment of perforative perityphlitis. You all remember the unfortunate death, under medical treatment, of a young and promising physician here in Buffalo, a couple of years ago. I shall mention but one point more: considering the high percentage of relapses in perityphlitis, about twenty-three per cent., and considering that a previous mild attack is no guarantee that a future attack will be equally mild, the question has necessarily been raised, whether it is not preferable in cases of relapsing perityphlitis to operate while the patient is convalescent, instead of letting him run the risk of a further and perhaps fatal attack. "A positive cure," Krafft says, "free from relapses, is only possible with operative treatment." No case is on record in which relapse has occurred after once a circumscribed abscess has been operated.

Krafft believes that in a few years every perityphlitic abscess will be operated upon, even after the disappearance of all symptoms, and this appendix ligated and cut off. Bull considers it still doubtful whether we ought to make laparatomy in relapsing cases. It is our English confrères, especially Lawson Tait, who have led the way. In the *British Medical Journal*, of October 5, 1889, Lawson Tait reports a case of relapsing perityphlitis successfully treated by operation. The patient had had repeated attacks of perityphlitis for half a year, three in all, the last one being the most severe. During each attack, the characteristic egg-shaped tumor had been felt, and was still distinctly marked. An incision, three inches long, was made above the cecum and a suppurating cavity opened on the outside of the cecum. The appendix was discovered swollen to three times its size. It was split open, some purulent fluid evacuated, and a concrement, felt in the upper part, pushed into the cecum with a catheter.

Although the operation had been made extra-peritoneally, the abdominal cavity was opened during the manipulations, but the opening was closed with sutures. The appendix was not removed, but a drainage-tube introduced into it, and left in position for a couple of days. The patient recovered without bad symptoms. In similar cases, Lawson Tait has twice removed the appendix, finding it thickened, swollen and suppurating, but he thinks the risk is increased by this proceeding and the removal unnecessary, preferring to open and drain it.

Treves mentions one case, who had had fourteen attacks and been in bed twelve months; he, too, recovered by operation. Treves favors operation between the attacks, too. I have so far seen no case in which I would recommend this proceeding. Although the percentage of relapses is high, twenty-three per cent., it is in my opinion scarcely high enough to justify such a serious operation, except in unusual cases with continued relapses, which make the life of the patient such a burden and misery to himself, that he prefers to take any risk in order to get well permanently.

Dr. M. D. Mann, in opening the discussion, disagreed with the second essayist's statement that pain, tympanitis, vomiting, etc., are always present in peritonitis. He mentioned lymphatic or septic peritonitis as having none of these symptoms except the small, rapid pulse, and diarrhea. These are most insidious and fatal cases, and the post mortem reveals the abdomen full of purulent fluid. With the third essayist's remarks on tubercular peritonitis Dr. Mann did not agree. He quoted a reported case of Dr. Van DeWarker; the patient's abdomen having been opened and drained for tubercular peritonitis, and two years later the patient was absolutely robust. Dr. Mann had two of his own experiences to report. Some time ago he washed out the abdominal cavity, having found the parietal peritoneal layers dotted with tubercles, and the intestines matted down by adhesions. So far this patient has seemed to enjoy immunity from the destructive ravages of tuberculosis. In the second case he operated for abdominal dropsy and found the peritoneum studded with tubercles. He removed one tube and ovary. The patient is not failing, although the dropsy returned. In both these cases he did not microscopically examine the tubercles.

In cases of general peritonitis, Dr. Mann believes with our best efforts the chances are slim for the patient. He mentioned Greig Smith's method of operating for such cases; namely, to open the abdomen and to irrigate the following day in order to avoid extreme shock. While he does not believe in opium treatment, he has found salts not always reliable for cathartic effect and sometimes nauseating.

Dr. Chas. G. Stockton believes there is a distinct field in peritonitis for both surgeon and physician. In traumatic cases the surgeon has his field, while in cases of spontaneous origin the physician, he believes, finds his best results from following the teachings of Dr. Alonzo Clark, as set forth by Dr. Hopkins. Dr. Stockton refrained from further discussion of the question of treatment because Dr. Hopkins had gone away after reading his paper. He wished to state, however, that he objected to the radical steps of surgery as advocated by Dr. Mynter.

Dr. John Parmenter sincerely believes the opium treatment will be discarded soon, and he instanced the treatment of pleurisy as more rational without opium. As for the treatment of laxatives he believes that many cases of alleged cure therefrom are really cases in which no peritonitis existed. When pus was present in general peritonitis he hoped it would not be ascribed to youthful boldness if he stated his belief in opening the abdomen, on the same principles that a suppurating joint is opened.

Dr. John Pryor said that evidently the physician must choose safe, middle ground, between the extreme views which the discussion had brought out. He believed that one should distinguish between the forms and conditions with regard to etiology, and the necessity for medicinal treatment, or operative interferences. It had been clearly demonstrated that we have two classes of cases. One where the cases were distinctly surgical, and another, constituting a general peritonitis, with no apparent cause, where to attempt laparatomy would be folly. Dr. Hopkins's positive assertion that general peritonitis was sometimes spontaneous in origin, he believed dangerous, because the idea is misleading and the opinion in opposition to the advanced knowledge of the times. The number of cases of so-called idiopathic peritonitis, grows steadily smaller with the increasing knowledge of the etiology and pathology of the disease. The arguments offered to support the theory of spontaneous disease, is at least disappointing. A conviction is announced, and an authority quoted whose clinical and pathological researches were made before recent investigation, added so much to our knowledge of the causative factors and surgical aspect of the subject.

Peritonitis arising without a definite known cause, manifestly calls for medical treatment, but the cause should be searched for in the hope of removing it, and any theory which leads away from this plan is unscientific, and may be harmful. The time for operating is neither too early nor too late. The treatment by opium, according to the method of Alonzo Clark, which has been so strongly recommended here this evening, was generally employed some years ago,

but he had thought that it was passing away; apparently it still existed as a relic of the days of empiricism. Recent discussions and a consideration of modern methods, make it questionable whether it is rational to administer opium until the respirations remain at eight or ten to the minute for several days. Narcosis, of a marked degree, is added to the depressing effects of diseased actions. Pain can be quieted by morphine in the same manner as in other affections. In no other disease or condition is opium or its preparation employed as a specific remedy, and according to arbitrary rules. By securing deep and prolonged narcosis, the symptons are obscured or hidden, particularly those of a subjective nature, thus preventing or delaying a clearer appreciation of the local condition, which otherwise might demand radical or prompt action for its relief. He regretted that Dr. Hopkins had left the room, as he desired to discuss some of his statements relating to symptomatology. Some of them were novel and peculiar, and he did not think they should appear to have won acceptance by silence. The diagnostic value of the pulse in diseases of the serous membranes had been over-estimated, and as a generalization he did not believe it was clinically correct. The essential differences noted in the character and forms of peritonitis were enough to reveal a fallacy without citing the dissimilarity in pleurisy, pericarditis, or referring to intrinsic influences and stages of disease. The pulse described is found in low forms, particularly of a septic nature, like those mentioned by Dr. Mann, and is noticed in other conditions when there is sufficient systematic derangement to produce it. He would like to express disagreement with other views which had been advanced but refrained at this time.

Dr. Jas. W. Putnam related the history of a case of Dr. Burwell's in which quick relief of all the symptoms followed bleeding. In the strong and plethoric he thought venesection an important procedure in treatment.

In closing the discussion Dr. Mynter repeated his statement that opium masks the disease and deludes the physician. He also announced his belief that Dr. Mann had erred in diagnosticating tubercle in his two cases, the more so since he had made no microscopical examination to verify. Dr. Mynter believed recovery impossible if tubercular nodules were left.

Under presentation of specimens, Dr. Krauss exhibited a specimen of marked atheroma of the aorta and an hypertrophied heart with thickened, insufficient valves.

Dr. Mann gave the following history of a case: Several months after laparatomy a patient of his developed a large ventral

hernia. Going without an abdominal support, and suddenly stooping, the abdominal wall burst open in the line of the cicatrix, exposing the intestines. An antiseptic dressing was applied until next day, when the line of incision was more fully opened and resewed, stitches being also used to unite the muscle fascia. The patient made a good recovery. Dr. Mann emphasized the importance of suture of the fascia to prevent hernia. In the original operation in the above case he failed to follow his usual procedure.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

DECEMBER 5, 1889.

Reported by J. M. BALDY, M. D., Secretary.

MENORRHALGIA AND MENORRSPASM.

BY G. BETTON MASSEY, M. D.

The list of pathological views that have been advanced in accounting for what is usually called dysmenorrhea is somewhat extended, even when the term dysmenorrhea is restricted to the uterine type of painful menstruation, excluding ovarian and inflammatory pains and true neuralgia. Those most prevalent at the present time, I believe, are, on the one hand, the mechanical theory of obstruction from stenosis or flexion, which may be called the Marion Sims theory, and the parametritis theory of Schultze. It is not sufficiently well known that this latter observer has completely upset the first or obstructive theory of painful menstruation by demonstrating that a sound may be passed, during the crisis of a supposed example of accumulation, without encountering fluid. Such a view is also weakened by the examples of stenosis and anteflexion that occur without painful menstruation. Yet Schultze's theory of parametric inflammation as a cause, seems to me unsatisfactory. That it has failed of practical acceptance by those even who advocate it, is shown by their adherence to dilatation as a means of cure.

In that excellent picture of painful menstruation contributed by W. Gill Wylie to the "American System of Genecology," another pathological condition is suggested,—hyperesthesia of the endometrium. That an hyperesthetic condition of the cavity does exist in these cases, I think any one who has passed a sound into them will admit. The exclamations of pain when the internal os is passed are most characteristic, and, in cases where a proper gentleness has been observed, must be other than normal; but I do not think that the word hyperesthesia

is sufficiently comprehensive as a designation of this condition. Dysmenorrhea, or difficult menstruation, is also but a partial description of the occurrence. In view of these facts I wish to present in brief to this society a new conception of the condition involved in painful menstruation as it has been suggested to me by recent clinical studies; and I also desire to propose a more useful name as a designation of the condition.

Abnormal pain at the menstrual period usually precedes the appearance of the flow, or it may follow a slight show, and be succeeded by a normal flow. As a rule, there is no flow at the moment that the pain is greatest. These facts have been the clinching arguments in the obstruction theory; but do they prove it? The absence of dilatation of the cavity above the point of apparent obstruction is significant. This, coupled with Schultze's observations, is fatal to the theory. The dependence of pain upon spasm, however, is clear, and the absence of flow, or slight flow, during the continuance of the pain only shows that the spasmodic condition of the uterus interferes with the excretory duties of the mucous membrane. Gastralgia, during the continuance of nervous dyspepsia, and simple intestinal colic, are analogous conditions. If I am right in this matter, the use of the word dysmenorrhea should be discontinued, as it forever suggests a mere mechanical condition. In its stead I propose the term *menorrhalgia* as a symptomatic designation that is etymologically in accord with associated terms, and does not tie us to a theory. If, again, it is believed that a given case of menorrhalgia is due to an inhibitory spasm, it should be called a *menorrspasm*.

This menorrspasm is usually accompanied by a permanently hyperesthetic condition of the endometrium, and is often indicated between periods by a spasmodic stricture of the internal os when an attempt at sounding is made. Exactly how much of this intermenstrual stenosis is spasmodic and how much fibrous, remains to be proven. The existence of the fibrous variety is, of course, undoubted; but the ease with which ether relaxes many canals sufficient to permit a dilator to be inserted indicates that they cannot be common, for, of course, an anesthetic could have no effect upon fibrous tissue.

Pathological anteflexion is also frequently found associated with menorrhalgia; but since the equal degree of this form of deviation may be found without pain, there can be no *essential* relation of cause and effect. The same may be said of endometritis and metritis. The frequency of menorrhalgia and its probable cause—menorrspasm—during a chronic metritis, without any evidence of stenosis, is an additional proof of the non-mechanical nature of this condition, as the

inflammation would doubtless interfere with contraction, and aggravate spasm at the same time.

In presenting these conceptions as a novelty, I do not wish to be understood as claiming the idea of spasm as connected with painful menstruation. Such a condition has been conceded all along, and is well understood by the patients themselves when they speak of "cramps." But the contractions have been supposed to cause pain, because the flow was pent up. The spasm, as an inhibition of a normal excretion, has not been dwelt upon.

Menorrspasm, in brief, may be said to be a neuro-myotic storm of the uterine neuro-muscular apparatus, which renders the excretion of the menstrual fluid temporarily impossible. Its remote causes may be traced to all those influences in modern life which hinder the proper development of animal life in young women.

The treatment of the disease is both general and local. Many cases get well after regulation of the bodily functions and the correction of imperfect hygiene, but many resist such measures. Of these a goodly proportion will yield to percutaneous applications of the galvanic current, poles being applied to the hypogastric and lumbar regions, and a current of from 25 to 50 ma. being turned on without shock. But often we must resort to local treatment; and of the nature of the local treatment that is most appropriate I have had some very positive experience,—an experience, in fact, which led to the conception of the pathological condition advocated in this paper. Forcible dilatation certainly cures many cases, doubtless by paralyzing the irritable fibers, as in fissure of the anus, and by stimulating nutrition; but it is not a sovereign remedy in a large proportion of cases. In my experience, a more certain and less formidable remedy may be found in the intra-uterine action of one pole of a galvanic current,—usually the negative pole,—when a promotion of flow is desired, with a current varying from 15 to 50 ma. *pro re nata*. A few such applications, during one or two intermenstrual periods, has cured a number of cases in my hands. A typical case was that of a young French girl of twenty-four years, who had been menorrhalgic since puberty, becoming much worse during the year preceding her application for treatment. She was badly constipated, and I at first expected to relieve her by correcting this, but her next menstrual period was as bad as ever. Examination then showed a small uterus with healthy surroundings. The sound could not be passed beyond the internal os. Twenty-five milliampères, positive, were given for two minutes with the electrode in this position. Six days later the same instrument went to the fundus, without the use of a tenaculum, and forty milliampères were

given. This was followed by an easier flow than for several years. Two similar applications were made during the next intermenstrual period, followed by a painless flow. Since then five menstrual periods have passed, all normal and free from pain.

Among my notes of married women treated in this way for menorrhalgia, three, who were apparently sterile, have become pregnant and borne children.

As contrasted with forcible dilatation this method is simple, does not require an anesthetic, and may be employed in young girls without the use of a speculum.

DISCUSSION.

Dr. A. Graydon.—I have at present under treatment a young girl who two years ago was operated upon by forcible dilatation. She is one of two typical cases, both of which were dilated. In the one case the dilatation was perfectly successful; in the other the operation did not effect the result expected. The girl still suffers severe pain at each period, and I have persuaded her to be put upon the electrical treatment. It is too soon to give the result. I have had curative results in sharp anteflexion, both with the faradic and with the galvanic current.

Dr. J. M. Baldy.—I have watched with a good deal of interest the electrical treatment as practised at the Pennsylvania and the Howard Hospitals. If we are going to get good results from electricity in any class of cases, we may probably expect to secure them in the class referred to by Dr. Massey.

The line is drawn sharply by Dr. Massey, between pathological anteflexion and normal anteflexion. In ninety-nine out of a hundred cases the anteflexion is perfectly normal. Many cases with an extreme degree of anteflexion, apparently pathological, have not the slightest symptom. In other cases without pathological anteflexion, or without any displacement, whatever, the dysmenorrhea is most severe. In many such cases I have obtained the best results by dilatation. So far as I have seen, electricity will undoubtedly relieve the pain in a certain number of cases. So will dilatation; but I take it that in the majority of cases dilatation will do the work better and quicker than electricity, and, perhaps, without as much annoyance to the patient.

I can illustrate this by reference to a case which was selected by Dr. Massey and myself as a test case. Dr. Massey thought that there was a pathological anteflexion; I thought that it was normal. She had suffered dysmenorrhea for years. She had come from a neighboring state, where she had had dilatation performed on a physician's table, without ether. We all know how unsatisfactory and incomplete that

is. She had no premonitory symptoms at the menstrual period following the dilatation, and no pain during menstruation. The relief was absolute for three months. The pain then began to return, and she came to us one year afterward. She was given electrical treatment, 25 to 50 milliampères being used at two sittings. She suffered premonitory symptoms for ten days. The flow came on without pain, and continued two days without pain. She then had severe pain for one day, but during the rest of the period there was no trouble. She had two sittings, but the relief was only partial. With the dilatation she had one sitting, and this without ether, by no means as thorough as what we understand by rapid dilatation, and the relief was absolute for three months. If this woman were put under ether and full dilatation made, the relief, in all probability, would be absolute and permanent. The same result could not be accomplished without electricity under several months' treatment.

Dr. J. Price.—My experience scarcely corresponds with that of some of the gentlemen. I am not in the habit of dilating, nor have I passed a sound for some time, nor am I in the habit of jumping to a conclusion as to the necessity of treatment without recognition of a lesion. There is scarcely a married woman who has borne children, who has not suffered with dysmenorrhea, due to one of the conditions under consideration. If she had consulted a physician she would probably have been treated by dilatation or electricity, as few ever escape. This I could demonstrate by the history of the wives of young physicians. In many of these cases operation had been suggested, yet a few months later they married and became mothers. Without the presence of some positive pathological condition, I do not see why we should submit these women to operation, for surely the indications are not clear, and you have no trenchant argument for local treatment. The more I keep my hands off, the better am I satisfied with the results. From no small experience, I am satisfied that many of these women suffer serious troubles from too much treatment; some suffer from too much closure of cervix, too much dilatation, too much intra-uterine treatment, and too much electrical treatment, and later submit to abdominal section for no minor trouble in the pelvis, clearly due, in many cases, to vicious treatment. I can report a large number of sections done after closure of the cervix and after dilatation. I have removed large pus-tubes, one week, one month, one year, after dilatation, and after closure of the cervix.

I will present these specimens to fortify my remarks. This pus-tube, larger than the uterus, was treated for two years with a pessary and other forms of treatment. It was mistaken for a retroflexion: I

examine a large number of women, and fail to find pathological anteflexion, except in the presence of these conditions. If you find a pathological anteflexion, you will find a pathological lateral or bilateral trouble, which contra-indicates intra-uterine treatment. In the fourth volume of Pepper's "System of Medicine," a case is cited in which the cervix was closed, and the author of the article a few weeks later removed pus-tubes. A few days ago I removed a small dermoid tumor from a woman who had suffered for years. She lay in a hospital for eight months, and submitted to seventy applications of the actual cautery for sciatica, and yet no vaginal examination had been made. In this case there was a clear indication for examination.

Dr. WILLIAM L. TAYLOR.—I fully agree with Dr. Price as to the number of cases of dysmenorrhea, but will also add the cases of young girls who are confined to bed every month for from one to four days. I would ask Dr. Price what is his treatment for such cases? These cases are numerous and require some rational treatment. We can divide cases of painful menstruation into two classes,—the one due to obstruction, the other to excessive ovarian congestion. In the first class dilatation, and in the second galvanism with counter-irritation, have given me good results.

Dr. J. PRICE.—I frankly say that I am afraid of the treatment, and have just reasons for being afraid. I wish to fortify the position of Dr. Goodell, one that he has held for a long time, although he practises these methods freely. Dr. Goodell has repeatedly called our attention to these moral rapes, and I wish to say that this is done too often, particularly by our female friends. Sex surely does not sanction the examination of every young girl with backache.

Dr. WILLIAM L. TAYLOR.—That does not answer my question. There are a certain number of cases that are confined to bed every month, and in which the bromides, opium, and chloral are largely contra-indicated. The only method in such cases is to make an examination and use such positive operative measures as will relieve the trouble.

Dr. JOSEPH HOFFMAN.—I have under observation such a patient as Dr. Taylor has spoken of. I have treated her for a number of months, but have not yet made an examination. The girl is sixteen years of age, and has pain for three or four days at every period. I advise going to bed and the use of hot fomentations. This is done for two or three days, and for the rest of the month she does very well. Where the girl is anemic and neurotic, these conditions very likely lie at the bottom of the trouble. In these cases the best treatment is rest.

So far as intra-uterine applications are concerned, I think that there

is no doubt that they are abused. Those who are called upon to treat painful micturition in males from bladder trouble, would not feel justified as soon as a man came with such disorder to pass a bougie at once. We are not to suppose because there is pain there is stricture. Pain may exist outside of any tangible condition, and may be cured by simple rest.

In regard to Dr. Massey's nomenclature, I see nothing in the terms suggested that has not been expressed before.

Dr. JOHN C. DACOSTA.—The gentlemen seem to consider dysmenorrhea a disease rather than a symptom. We have a variety of forms of dysmenorrhea. There may be an obstructive dysmenorrhea, a congestive dysmenorrhea, and a neuralgic dysmenorrhea. Take a sharply flexed uterus. If the canal follows a perfect curve, there is no dysmenorrhea. If, however, there is a sharp bend, such a uterus will have to go into a mimic labor to expel the blood, and we have dysmenorrhea. Again, the uterine canal may be large enough to pass the menstrual blood, but as the result of such passive or active congestion as may follow "catching cold" or the congestion sometimes following coition, there may be swelling of the mucous membrane which will close the canal, and the woman will suffer pain. There may be another form due to ovarian neuralgia. In the first two classes dilatation answers the purpose; in the last, electricity may answer.

I cannot understand that peculiar formation of mind that is not afraid to cut open the abdomen, tear adhesions apart, and yet will not examine the pelvis by the vagina to see what is the matter, or is afraid to dilate a cervix. With all due deference to Dr. Price, I do *not* think that most cases of dysmenorrhea are due to pus-tubes. I have seen a number of cases in virgins who could not have had gonorrhea (which some allege as the cause of pus-tubes) and who did not have pus-tubes. I have not been afraid to handle these cases, but have treated and cured them, and there has been no after-trouble.

Dr. WILLIAM GOODELL.—As, in a certain sense, I have been the parent of dilatation in this city, I should like to give my experience. I have performed the operation three hundred and fifty-four times, and barring the first few cases in which I did not use antiseptic precautions, there has been no trouble, and even in one or two of the earlier cases where trouble occurred, it was very slight.

I agree with Dr. Price that young girls should not be examined without due reason; but when a girl comes who has been suffering month after month, and year after year, and her life is made miserable, it is only right that something should be done to relieve her. I object strongly to the frequent vaginal examinations that are made

simply for backache. Where an examination is desired by the mother, I frequently make a rectal examination; this enables me to determine the position of the womb and the condition of the pelvic organs.

I think that Dr. Price sees these things from a different point of view. He has a large dispensary practice, and sees a certain class of patients who are liable to gonorrheal trouble. He is probably right from his point of view. I have, myself, never seen a positive case of dysmenorrhea from pus-tubes. I have seen painful menstruation in these cases, but the pain was in the ovarian region. It is not a uterine pain. Ovaralgia is by no means frequent without pus-tubes.

I should like Dr. Price to explain one of his remarks. He speaks of cases of closed os uteri in which there were pus-tubes.

I cannot give up rapid dilatation of the cervical canals to electricity, unless the latter is as effectual, and it can be used without ether and at one sitting. The only objection to the operation of rapid dilatation is the necessity to give ether. A physician not long ago made the statement that he could cure any kind of stricture of the urethra by electrolysis. He was offered cases by some of his brother physicians of that city; but, if my memory serves me no trick, when he was closely challenged he failed to respond. I have seen the statement made in some of the medical journals, that the use of electricity is followed by dilatation of the uterine canal. But I do not understand the *rationale* of this agent, and I should like to hear Dr. Massey explain it.

Dr. J. Price.—I did not attribute dysmenorrhea to the presence of pus-tubes. What I said about pus-tubes had nothing to do with dysmenorrhea, or its treatment by dilatation or electricity, except as sequelæ. I wish clearly to condemn the indiscriminate examination of virgins. General treatment, out-door life, and rest does cure these cases. It is in just these cases that Dr. Weir Mitchell recommends his rest treatment, and in which he has such success. I would refer Dr. Taylor to the collection of photographs which were sent here by Dr. Playfair. I presume that all these women suffered dysmenorrhea, and they were all cured by rest, and, I venture to say, had no local treatment.

Dr. J. M. Baldy.—Does Dr. Price mean to say that all cases of dysmenorrhea in virgins can and should be cured by the rest treatment? I have heard him unqualifiedly condemn it.

Dr. William Goodell.—By what authority does Dr. Price state that the cases of Dr. Playfair suffered with dysmenorrhea.

Dr. J. Price.—I only presume that they did. They got well with general treatment, married, and bore children without electricity.

Such cases, in my experience, always have dysmenorrhea. But few women are free from it.

Dr. J. M. Baldy.—There is still the class of cases referred to by Dr. Taylor, of young girls who are not married, and have no idea of getting married, and who suffer the torments of the damned at the menstrual periods. They have to go to bed for three or four days each month, and some are made worse for going to bed. These cases surely demand some treatment. It is all very well to indiscriminately condemn electricity, dilatation, and other forms of local treatment, but what does Dr. Price offer us in their stead? Practically nothing. Dilatation will cure a certain number of these cases. Everyone admits that indiscriminate examinations are wrong; but the members of this society are surely beyond such an abuse. If a woman has been suffering for years, is still single, and getting worse, her virginity should be no bar to treatment.

Dr. William Goodell.—I have had a good many patients under the rest treatment, and while Dr. Price is right in regard to the majority of cases of dysmenorrhea cured by this treatment, yet he is not wholly right. I have been obliged to dilate some of my own cases, and I have repeatedly been asked by Dr. Mitchell to dilate patients for him who had been under the rest treatment, and who have been cured in every respect, with the exception of the dysmenorrhea.

Dr. M. Price.—There is one point I want to discuss, and that is the examination of virgins. A short time ago I sent a patient to a specialist for treatment of the throat. He told her he could cure her in six weeks; but at the end of that time she was no better. He then told her that she had uterine trouble, *he could see it in her throat*, and sent her to two or three specialists, who would not examine her, there being no indication for so doing. He said he would have her examined in spite of the father, and in spite of the opinions of the specialists. If it is ever necessary to examine a virgin it should be done under ether, in the presence of more than one individual.

Dr. G. Betton Massey.—Dr. Baldy has scarcely treated me with fairness in mentioning a case in which the treatment is only commenced; still his narrative shows considerable benefit from two applications. The paper did not claim that a single treatment would cure these cases. I distinctly stated "two or three treatments during at least two intermenstrual periods."

I am glad to see that, to-night, some of the surgeons are so conservative. While I agree with what has been said as to the inadvisability of vaginal examination in virgins, yet all must admit that at certain times examinations become necessary. I have, myself, always tried

other measures first, and continued them for some time—often too long. A special advantage of this method of local treatment is that you do not have to use the speculum, and it is not necessary to dilate the vagina.

Dr. DaCosta has said that the menstrual pain is sometimes due to trouble in the ovary; I particularly excluded that from the paper. I believe it is pretty well understood that you can discriminate between the uterine pain of menorrhalgia and the ovarian pain preceding the sickness.

Dr. Goodell has made a good point in regard to the inefficiency of a single sitting of electricity. Where the trouble has to be relieved at a single sitting, dilatation comes in. I cannot explain how electricity overcomes the contraction of these canals. I have been unjustly charged with a mixing of facts in my book by one of the reviewers, who pointed out that in one place it is stated that there might be atresia of the cervix from the use of too powerful a current, and, in another place, the same thing is recommended to produce enlargement of the cavity. I have, myself, never seen atresia follow the use of heavy currents. Apostoli mentions its possibility, but he uses a sound that is bare at the external os, whereas, under the impression that a cauterization at the mouth is inadvisable, I try to apply the cauterization to a certain part only of the cavity. However it may be explained, I do not find that under the application of either the positive or negative current to the cavity of the uterus, after one or two applications the sound passes with greater ease, and that the succeeding menstrual flow is almost invariably less painful. There are two possible explanations: the one, that the canal is rendered patulous; the other, that spasm is relieved. I do not believe that pelvic trouble can be brought on by this treatment of menorrspasm in a woman otherwise healthy, and should not hesitate in such cases to apply powerful currents to the interior of the uterus, if proper aseptic measures were used. The troubles which may follow are due rather to dirt, than to the operation.

The last case of murder under the name of "Christian Science Treatment" has aroused so much indignation in Massachusetts, that stringent legislation will be brought to bear to extirpate what is, without question, one of the most pernicious frauds and delusions that a community has ever been cursed with.—*Buffalo Commercial Advertiser.*

Translations.

LASSAR'S METHOD FOR TREATING THE SCALP.

Translated from *Der Fortschritt*, for the BUFFALO MEDICAL AND SURGICAL JOURNAL,

BY ERNEST WENDE, M. D., B. Sc.

WE HAVE no means to prevent hair from falling out nor any to hasten a new growth; consequently, treatment is naturally superfluous, especially since, in the majority of cases a complete restoration sets in spontaneously. Thus frankly remarked Lassar in the chapter on alopecia areata in his manual on skin diseases. The disease, as is well known, attacks the scalp, forms circular spots about the size of a dollar, and from the margin the hair comes out readily on slight traction. With its advance complete baldness may ensue. We may still read in the recognized compendium of Kunze that "treatment which would prove effectual is not known." Here, also, may be found the indifferent attitude of physicians regarding this affliction. Whenever a young man is seen whose baldness is conspicuous, we may hear some trivial remark ascribing the cause to excesses in "Venere et Baccho," which by the way is often a false conclusion. The sudden fall of hair is a disorder to which some (Sehlen and Unna) assign a parasitic cause, while others again, as Michelson, attribute it to a nervous origin, although the use of unclean utensils by the barber is frequently responsible for it.

The first to arouse physicians from lethargy in the treatment of alopecia was Lassar, the well-known and able docent for diseases of the skin at the University of Berlin. In an article on diseases of the hair he puts forth his method which he had tried in more than 1,000 cases of alopecia pilyrodes and areata, and gives the following directions:

First. The scalp must be well lathered with a very strong tar soap for ten minutes.

Second. The lather is removed first with luke-warm followed with colder water in abundance, after which the scalp is thoroughly dried.

Third. The scalp is then rubbed with the following solution:

℞—Sol. Hydrarg. bichlor. corr. 0.5:150.0
Glycerin . . . . . .
Spirit. or cologn aa 50.00
M—Sig. Ext.

Fourth. The scalp is rubbed dry with a solution of

℞—Beta naphtholi 0.5
Absol. alcohol 100.00
Mix.

Fifth. After this, the scalp is thoroughly anointed with a liberal application of the following preparation :

℞—Acidi Salicylici 2.00
Tr. Benzoes 3.00
Ol. ped. taur. q.s. ad 100.00
Mix.

This procedure must be kept up for six to eight weeks, and be repeated every day.

But few cases resist the treatment, and often after a few applications the downy sprouts may be seen.

Dr. Graetzer, in the October number of the *Therap. Monatsch.*, warmly advocates this excellent method. He reports brilliant results obtained from its use, and invites his colleagues to give it a more extended trial than heretofore.

In making this reference to Lassar's method, I did not regard it as altogether purposeless, since there are so many young pharmacists and physicians who carry about barren fields upon their heads, the result of alopecia, who, perhaps, would make another attempt at cultivation.

E. B. Treat, publisher, No. 5 Cooper Union, New York, announces the *International Medical Annual* for 1890, as shortly to appear. This is the eighth issue of this periodical, will contain about 600 pages, illustrated, and will be in many respects superior to its predecessors. Its corps of thirty-eight editors embraces some of the most competent medical writers of the present day, and the *Annual* is fast becoming a necessity for the active physician. Orders should be placed at once. Price, $2.75.

Vick's Floral Guide for 1890, published by the veteran Rochester seedsman, whose name it bears, has appeared, and it is more complete and handsomer than ever. Every flori-culturist, and particularly all women interested in garden and house plants, should see this beautiful illustrated catalogue of the largest establishment of its kind in this country. Price, 10 cents (to be deducted from the first order), which amount sent to James Vick, seedsman, Rochester, N. Y., will secure a copy.

The International Carriage Co. of Buffalo, N. Y., sends out a most artistic circular as a special newspaper edition. Its pictorial trade-mark is at once an enigma and a study in art engraving.

BUFFALO MEDICAL AND SURGICAL JOURNAL

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EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

THE BUFFALO STREET-CAR NUISANCE AGAIN.

WE HAVE on several occasions appealed to the Board of Health, of this city, to establish an inspection of the street cars, with a view to correct their unsanitary condition, and to put them upon the same basis as other public carriers. We need not go over the grounds of our complaint again. The nature of the offense that is daily perpetrated against common decency, as well as against the simplest rules of sanitation, is already well known to the street-car proprietors and to the Board of Health.

The citizens who patronize the street cars are, we fear, still in ignorance of the dangers they are exposed to, hence we return to the subject for the purpose of once more warning them thereof. We can do no more than this. We can only call attention to the perils of a ride in these cars in their present unhealthful condition. If the proprietors of the nuisance will not abate it of their own notion, and the Board of Health will not interfere to correct so grave an evil—one so threatening to health and comfort—then we can only advise those who would enjoy good health and long life to keep out of the street cars in winter.

We subjoin the following from the New York *Medical Record*, showing how the Philadelphia Board of Health exercises authority over this matter, and giving the opinion of an expert on the deleterious effects arising from the use of hay in the street cars:

HAY IN STREET CARS.—Medical Inspector Taylor, of Philadelphia, very properly declaims against the use of swamp hay in street cars as follows: "I have investigated the complaint about the use of swamp hay in the cars of one of the passenger railway companies, and find that, during wet weather, the hay becomes saturated with water, and loaded with the expectorations from scores of tobacco chewers, the sputa from tuberculous lungs, and street filth from passengers' shoes. The moist exhalations from this mass of filth are pernicious and prejudicial to health. If this hay is dried and used again the dust that is given off from the movements of the passengers finds lodgment in many delicate mucous membranes." Perfectly right, doctor; we agree with you in declaring the practice a public nuisance.

THE PROPOSITION comes from the managers of the New York State Lunatic Asylum, at Utica, to change the name of that Institution to the Utica State Hospital. We hope the Legislature will act promptly and favorably on the measure if it should crystallize into the form of a bill. There is apparently no good reason why the hospitals where diseases of the brain and nervous system are treated should be called asylums; certainly it would be as pertinent to call any and all hospitals asylums as these.

The humane stand taken by the Superintendent of the Utica Asylum in this and other matters relating to the management of his institution, are to be commended, and we trust he will receive the cordial support of the profession in carrying forward all measures of reform regarding the care and treatment of the insane. The Utica *Daily Press*, in its issue of January 16, 1890, speaks editorially upon this subject in a most liberal and proper spirit, and its wise words deserve to be well pondered by all interested in the considerate betterment of the environment of the class of invalids in question.

GAILLARD'S MEDICAL JOURNAL, one of the best American monthly medical magazines, in its January number, 1890, thus gracefully speaks in its editorial columns: "In the February number we will publish with illustrations the valuable paper (read before the Southern Surgical and Gynecological Association) of Dr. L. S. McMurtry, of Danville, Ky., one of the most accomplished physicians and cultivated gentlemen in the American profession."

MUNDÉ says that to the imprudent act of getting out of bed without protecting the feet—one so commonly committed by women without thought of the consequences—may be traced many an attack of cellulitis, brought on by the sudden though momentary exposure of the feet to cold. It has caused more diseases to women, previously healthy, than could result from any other single act of imprudence.—*Lancet-Clinic*.

Journalistic Notes.

THE ST. LOUIS POLYCLINIC has changed its name to the *Courier of Medicine*.

THE DIXIE DOCTOR is the name of a new journal that is published at Atlanta, Ga. It is edited by T. H. Huzza, M. D.

Obituary.

Mrs. Margret Munro Rochester, relict of the late Dr. Thomas F. Rochester, died at her residence in this city, on Monday, January 6, 1890, aged sixty-six years. Mrs. Rochester was the daughter of the late Bishop De Lancey, and has resided in Buffalo since 1853, when Dr. Rochester came here from New York to engage in the practice of his profession, and to occupy the teaching chair in Buffalo Medical College just then vacated by Dr. Austin Flint, the founder of this Journal. She was for many years Chairman of the Board of Auxiliary Managers of Buffalo General Hospital, and in many ways has lent her influence to the promotion of church and charitable interests in a substantial manner. A large circle of admiring and loving friends unite in sorrowful sympathy with the afflicted family.

Dr. Truman Hoffman Squire, of Elmira, N. Y., died at his home on Wednesday, November 27, 1889, aged sixty-six years. Dr. Squire has been a prominent figure in professional circles for many years, and his fame has gone beyond the confines of state, and even of nation. He was best known to the medical world as a surgeon, though in his immediate locality his reputation as a physician was not excelled by any of his compeers. Dr. Squire rendered conspicuous service in the late war, and was specially complimented therefor by the Surgeon-General of the Army. He was a writer of great clearness, and his contributions to medical literature have been quoted in two hemispheres. He was a member of several medical societies, local, state, and national, that have adopted suitable tributes to his memory. Not often is the medical profession in the State of New York called to mourn the loss of so great a man.

Dr. David Prince, of Jacksonville, Ill., died at his home, December 19, 1889, in the seventy-fourth year of his age. Dr. Prince was a surgeon of high renown, a medical writer of clearness and force, and a physician who enjoyed the confidence of his friends and neighbors, as well as the respect and friendship of his professional brethren, which latter have adopted appropriate memorial expessions thereof.

Dr. Charles McMillan.—We regret to chronicle the death of Dr. Charles McMillan, the Medical Referee of the Pension Bureau, which occurred in Washington, D. C., January 7, 1890, of pneumonia.

Dr. McMillan entered the volunteer service of the army August 3, 1861, and served until October 7, 1865, when he was mustered out. He served as American Consul at Rome during General Grant's terms as president.

Lewis Hall Sayre, M. D., of New York, son of the well-known surgeon, Dr. Lewis A. Sayre, died suddenly on the night of January 2, 1890, of heart failure. He returned late at night to his father's residence, No. 285 Fifth avenue, and was found by the family the next morning, sitting in a chair in his office, cold in death. An autopsy showed disease of the liver and kidneys. The *Medical Record* gave the following account of his life:

Dr. Sayre was born in 1851, in New York. He obtained his general education in the College of the City of New York, and his professional diploma from Bellevue Hospital Medical College. He was an assistant professor of orthopedic surgery in the Bellevue Hospital Medical College, a member of the Academy of Medicine, and of several State and National Medical Societies.

The sympathy of all will be extended to Dr. Sayre, who, for the second time, has suddenly lost a son.

Personal.

Dr. Daniel Lewis, President of the Medical Society of the State of New York, Instructor in Surgery in the New York Post-Graduate School of Medicine, etc., has recently, upon invitation of the Faculty, delivered a course of lectures in the Medical Department of the University of Buffalo, upon "The Nature and Treatment of Cancer." These lectures were illustrated, and were a valuable contribution to the knowledge of this interesting subject.

Dr. G. W. McPherson, of Lancaster, N. Y., was elected President of the Medical Society of Erie County, at the annual meeting held in this city January 14, 1890. This is a deserved recognition of the professional attainments of one of the most capable members of the Society.

Dr. L. Howe, of Buffalo, is mentioned as having an eye upon the presidency of the Medical Society of the State of New York; at all events the doctor appears to be manifesting a special interest in the business affairs of the Society this year. We wish him success.

Dr. W. D. Greene was chosen City Health Physician by the Buffalo Board of Health, at its recent annual meeting. If a change was to be made, no more suitable officer could have been selected.

Society Meetings.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Provisional programme of papers for the eighty-fourth annual meeting in the City Hall, at Albany, on Tuesday, Wednesday and Thursday, February 4th, 5th, and 6th, 1890.

OFFICERS OF THE SOCIETY.

President—Daniel Lewis, New York. *Vice-President*—Alfred Mercer, Syracuse. *Secretary*—F. C. Curtis, Albany. *Treasurer*—C. H. Porter, Albany.

Committee on Business—George Henry Fox, Henry Flood, Herman Bendell. *Committee of Arrangements*—Samuel B. Ward, Edward L. Partridge, C. S. Merrill *Committee on By-Laws*—F. A. Castle, A. R. Simmons, F. C. Curtis. *Committee on Hygiene*—E. V. Stoddard, A. N. Bell, W. B. Brown, J. P. Creveling, W. H. Bailey, W. C. Bailey, E. F. Brush. *Committee on Legislation*—D. B. St. John Roosa, B. Pillsbury, M. J. Lewi. *Committee on Ethics*—A. Jacobi, A. Matthewson, H. R. Hopkins. *Committee on Prize Essays*—G. F. Shrady, F. P. Foster, Eugene Beach. *Committee on Publication*—F. C. Curtis, J. O. Roe, O. B. Douglas, C. H. Porter.

FIRST DAY—TUESDAY. MORNING SESSION—9.30.

President's inaugural address, appointment of committees, executive business.

Papers.—"The Use of Belladona in Spasmodic Contractions of the Neck during Labor," S. S. Cartwright, Roxbury. "The Time-Element in Saving the Perineum," Robert L. Dickinson, Brooklyn. "A Case of Extra-uterine Pregnancy," H. De V. Pratt, Jr., Elmira. "What are the Rational Limitations of Intra-uterine Therapeutics, Andrew F. Currier, New York. "Remarks on the Use of the Uterine Curette," Walter B. Chase, Brooklyn. "Cancer of the Body of the Uterus," H. C. Coe, New York; "The Indications for Operation in Disease of the Uterine Appendages," Egbert H. Grandin, New York. "Seven Consecutive, Successful Cases of Intubation of the Larynx for Diphtheritic Croup," Wm. Hailes, Jr., Albany.

AFTERNOON SESSION—2.30.

"On the Treatment of Eczema in Elderly People," L. Duncan Bulkley, New York. "An Original, Simple, and Effective Method for Treatment of Scabies," Samuel Sherwell, Brooklyn. "On a Case of Leprosy Apparently Cured," George Henry Fox, New York. "Acute Dacryocystitis," David Webster, New York. "Spectra of Blood in Certain Eye Diseases," Lucien Howe, Buffalo. "Cataract," Francis Valk, New York. "A Case of Meningocele Resembling Degeneration of the Lachrymal Sac," W. F. Mittendorf, New York. "Purulent Ophthalmia," J. A. Andrews, New York.

EVENING SESSION—7.30.

"The Thomas Hip Spint," J. F. Ridlon, New York. "A Ready Method for Counter-traction at the Knee," Henry Ling Taylor, New York. "The Pendent Limb in the Treatment of Joint Diseases of the Lower Extremity," A. B. Judson, New York. "The Prevention of Tuberculous Bone Lesions," V. P. Gibney, New York. "The Question of What Produces and What Prevents Anchylosis of Joints," A. M. Phelps, New York. "A Statistical Paper on Club Foot," W. R. Townsend, New York.

SECOND DAY—WEDNESDAY. MORNING SESSION—9.30.

Executive Business.

"Fever and its Treatment," Alfred L. Loomis, New York. "A Case of Uremic Convulsions in New-born—Recovery," A. Hutchins, Brooklyn. "Functional Abuminuria, with Three Years' Observation of a Case," Eli H. Long, Buffalo. "The Importance of a State or National Registration of Births," Alex. Hadden, New York. "Isolation of Consumptives," P. H. Kretzschmar, Brooklyn. "The Production of Tubular Breathing in Solidification and Other Conditions of the Lungs," Charles Cary, Buffalo. "The Physiological, Pathological, and Psychological Bearings of Sex," Sam'l S. Wallian, New York. "A Study of Alcoholism in Bellevue Hospital," C. L. Dana, New York. "Early Diagnosis of Tubercular Meningitis," W. P. Northrup, New York. "Recent Lunacy Legislation Affecting the General Practitioner," E. H. Howard, Rochester. "The Prompt Recognition and Treatment of Syphilis of the Brain," J. Leonard Corning, New York.————, E. F. Brush, Mount Vernon.

AFTERNOON SESSION—2.30.

Address on "Surgery," Alfred Mercer, Syracuse. "The Diagnosis and Treatment of Fractures Through the Anatomical Neck of the Humerus," C. A Powers, New York. "Report of Five Cases of Supra-pubic Cystotomy for Tumors of the Bladder and Vesical Calculi," A. Vander Veer, Albany. "Reflections upon Some Cases of Nephro-lithotomy," E. L. Keyes, New York. "A Rarely Described but Common Form of Cystitis in Women," Robert T. Morris, New York. "An Extension of Splint for the Treatment of Fractures of the Leg, the Arm, and Fore-Arm," P. R. Furbeck, Gloversville. "A History of 250 Cases of Excision of Superior Maxilla," J. D. Bryant, New York. "Treatment of the Diseases of the Rectum based upon Anatomical Study, Seneca D. Powell, New York.

EVENING SESSION.

Anniversary Address by the President, eight o'clock. Annual dinner of the Society, nine o'clock.

THIRD DAY—THURSDAY. MORNING SESSION—9.30.

"Methods of Examining the Post-Nasal Pharynx and Surgical Treatment of Diseases of that Cavity," C. C. Rice, New York. "A Case of Papilloma of the Vocal Chords," Charles N. Cox, Brooklyn. "The Prevention of Tubercular Laryngitis," B. F. Westbrook, Brooklyn. "Nasal Intubation," D. H. Goodwillie, New York. "Nasal Epilepsy," John O. Roe, Rochester. "Some Practical Suggestions Concerning Antrum Disease," F. H. Bosworth, New York. "Chronic Nasal Catarrh; Its Causes, Course, and Cure," O. B. Douglas, New York. "Naso-Pharyngeal Epithelioma," Sidney Allan Fox, Brooklyn. "The Etiology and Radical Treatment of Nasal Myxomata," W. C. Jarvis, New York.

Book Reviews.

Treatise on Diseases of the Nose and Throat, in two volumes, by FRANCKE HUNTINGTON BOSWORTH, A. M., M. D., Professor of Diseases of the Throat, Bellevue Hospital Medical College, New York; Fellow of the American Laryngological Association, of the American Climatological Association, etc., etc. Volume I., Diseases of the Nose and Naso-Pharynx, with four colored plates and 182 wood cuts. Cloth; octavo, pp. xvii., 670. New York: William Wood & Co. 1889.

This is an important work, and demands careful examination. It is a new work, for, although Dr. Bosworth published in 1881 a volume on the diseases of the throat and nose, the present one has been written almost without reference to it, and contains but two chapters in any way suggestive of the earlier publication. The author is an enthusiastic student and expresses his opinions with force and clearness. He has done much to advance the knowledge of the diseased conditions, as seen in the upper air passages, and even where his opinions have not been entirely accepted, the very directness with which they have been stated has stimulated inquiry, and has often led to a reëxamination of the subject. When, therefore, it was known that Dr. Bosworth was preparing a new work on the diseases of these organs, it was expected that it would be in the largest sense original. In this we have not been disappointed. It is one merit of this volume that it gives the experience of an observer who has had large opportunities, and who has used them as only a student can. It is not too much to say that laryngological literature is the richer for the book, or that the workers in the same field will find in it much that will be of great assistance to them.

The opening chapters relate to Methods of Examination, Methods of Treatment, Mucous Membranes, Taking Cold, the Anatomy and Physiology of the Nose, and Some General Considerations concerning Catarrhal Diseases. These chapters illustrate a particular merit of the author's writing—that of simplicity. The study of disease and its treatment is a complicated one at its best, and it does not seem necessary to make it more so by involved processes of reasoning. Some idea of this kind the author probably had, for we are continually meeting sentences condemning elaborate methods of investigation. On page 11, for instance, he says: "In other words, a simple head-band on the forehead, and a good strong source of light, afford us in every respect as good a method of practising laryngoscopy as the most elaborate apparatus." And this statement is repeated on page 13. In many places complicated methods of treatment are condemned, and the simpler ones advocated. The ordinary hand-ball atomizer, with the

single bulb, answers as well as the air pump and receiver. The latter is a convenience, but not necessary. The chapter on taking cold contains a great deal of excellent advice. It ought to be published in pamphlet form, so that the body of the profession not likely to consult a special work could become familiar with it. The study of the various diseases begins with a chapter on acute rhinitis. This chapter should be read in connection with the one just mentioned, that on taking cold, and we feel sure if the suggestions contained in these two chapters were followed—not simply read and forgotten—there would be fewer colds, and consequently less trouble with the upper air passages. The subject of Hypertrophic Rhinitis receives full and careful consideration. Dr. Bosworth protests against the habit often seen in European writers, of speaking of catarrh as an American disease. This assertion is, to put it mildly, a rather loose one. If the cases were carefully examined that presented themselves for treatment for throat disease, many of them would be found to be suffering from nasal disease as well, and, indeed, the latter is often the direct cause of the former. The evolution of a catarrh results from a complex series of causes and is seen almost everywhere. It cannot be put aside by simply calling it an American disease. We may know more about it in this country than they do in some others, but that is because we have studied it more, not because as a Nation it is more prevalent here.

The subject of the Purulent Rhinitis of Children is a very important one, especially as it is often the first step in the development of the atrophic rhinitis. Our observation tends to confirm the author's opinion on this point. The latter disease is so very obstinate that any suggestions in its prevention is of great value. The appearance of a purulent rhinitis in a child, therefore, demands attention at once, for by proper treatment the atrophic condition in later life can be prevented. In this connection Dr. Bosworth records an interesting clinical observation, to the effect that in early life the mucous structures seem prone to pathological processes, while in adult life it is the connective tissues that exhibit this tendency. This will explain some of the differences in the diseases seen in these different periods.

We have a short chapter on that rare, but interesting, disease called Croupous Rhinitis, in which a false membrane forms on the mucous surface, and which is very obstinate, not yielding readily to treatment. The author believes more in the constitutional than in the local treatment, though both are necessary.

The question of Nasal Reflexes receives extended treatment. In this notice we can but call attention to the importance of this subject,

and to the excellent manner in which it is handled by the author. The general physician who comes in contact with all sorts of cases daily, will find here much valuable information that will help him in obscure cases. It would be well if he were familiar with it. The specialists will consult it often, and will not be disappointed in the thoroughness with which the various reflexes are analyzed and discussed. The views of Dr. Bosworth upon Hay Fever or Vaso-motor Rhinitis and Asthma or Vaso-motor Bronchitis, are very well known, and have occasioned more or less controversy. They are very fully discussed here.

Hay fever depends upon three factors, namely:

I. The presence of pollen in the atmosphere.

II. A neurotic habit.

III. A local morbid condition of the nasal mucous membrane.

Asthma also depends upon three factors:

I. A general neurotic condition.

II. A diseased condition of the nasal mucous membrane (not the bronchial.)

III. Some obscure condition of the atmosphere exciting the paroxysms.

It will be observed that one of the factors in each disease is a morbid process in the nasal passages. Whether we carry this proposition as far as the author or not, there is, no doubt, a large amount of truth in his position which we must recognize and act upon. It is, therefore, necessary to have each of these cases examined as to the condition of the nose, so as to be sure not to overlook this important complication. When found to exist, it, of course, must be removed before we can look for a successful termination of the case. It is a new departure to find a chapter on asthma in a work upon the nose, and yet we think the author was justified in so including it. We believe, also, that much good will result from the stimulus he has given to the study of this disease, which cannot help but be of material benefit to patients.

We have next short chapters on Nasal Hydrorrhea and Anosmia, and then we come to a chapter of especial interest on Deformities of the Nasal Septum. Here, again, the athor has done a great deal of original work. We must accept to-day as the result of his teaching that it is absolutely necessary to correct these deformities in order to relieve the cases. He believes that they are probably the most frequent of all the exciting causes of catarrhal inflammation of the nasal mucous membrane—a position that is not easily disputed. In the removal of these deformities the author prefers the saw, an opinion in which we concur,

though sometimes it must be abandoned for other means. The illustrations in this chapter are very good, and serve to clearly explain the text.

The following subjects are then considered in their order: Epistaxis, Foreign Bodies in the Nasal Passages, Rhinoliths, Parasites in the Nasal Cavities, Syphilis of the Nasal Passages, and also its Congenital Manifestation, Tuberculosis and Lupus of the Nasal Passages, and Rhinoscleroma.

In a series of ten chapters are considered next the various neoplasms as seen within the nose, beginning with the ordinary nasal polyp and ending with carcinoma. While some of these forms are very rare, others are comparatively common, and we find that they are presented here in a manner that leaves nothing to be desired. The special student will not find wanting anything that would serve to make him familiar with any question likely to arise concerning these growths, especially with their diagnosis and treatment.

The section closes with a chapter on Diseases of the Accessory Sinuses of the Nose. Separate divisions consider the diseases of the Antrum, the Ethmoidal Sinuses, the Sphenoidal Sinuses, the Frontal Sinuses, and the Differential Diagnosis between Diseases of the Accessory Cavities. A knowledge of these subjects is absolutely essential to the specialist, and we find them presented here in a concise manner and with a clear appreciation of the various conditions. It is a valuable chapter for reference and will probably be consulted as much as any part of the work. The next section considers the Diseases of the Naso-Pharynx. While this region is generally involved in any morbid process beginning in the nose, there are certain conditions seen here alone. This is especially so with some of the neoplastic formations and with Hypertrophy of the Pharyngeal Tonsil, or as it is sometimes called, Adenoid growths in the pharyngeal vault. The chapter dealing with the last mentioned disease deserves special notice. It gives a full account of our knowledge concerning it, together with the various methods of treatment. In the operative treatment Dr. Bosworth prefers the cold wire snare where it can be used—though, of course, he recognizes that there are many cases where some other method must be employed.

The chapter on Fibroma of the Naso-Pharynx is another that will be frequently consulted. This often very serious disease must be recognized early and the treatment must be radical. The methods the author considers best are the cold wire snare and electrolysis. Detailed descriptions of these operations are given.

The third and last section of the work treats of the External Sur-

gery of the Nose, and describes those operations by which larger access to the nasal passages is obtained for the removal of tumors. These operations are of three classes, and include:

I. Incisions through the hard or soft palate, or both.

II. Incisions through the external integument alone.

III. Incisions through the external integument together with section of bone.

Under these various groups are described no less than thirty-three operations, each bearing the name of the surgeon first to propose it. The section is beautifully illustrated with four colored plates and many wood cuts, which served to make the text plain. This part is as elaborate as any we have yet passed in review, and materially contributes to the value of the book. While some specialists would no doubt prefer that these operations should be performed by a general surgeon, they should all know wherein they differ from one another and their relative value.

The work is completed by a Biographical and a General Index.

It will be seen that this is an exhaustive treatise, and one that the specialist, at least, cannot afford to be without. The publisher's work is well done. The type is large and clear, and the illustrations finely executed. Take it all in all, this work stands easily among the first ever published in this or any country, upon the subjects of which it treats. We await with interest the second volume, which we understand is to follow shortly. F. H. P.

Hypnotism; Its History and Present Development. By FREDRIK BJÖRNSTRÖM, M. D. Head Physician of the Stockholm Hospital; Professor of Psychiatry; late Royal Medical Swedish Councillor. Authorized translation from the second Swedish edition. By Baron Nils Posse, M. G. Director of the Boston School of Gymnastics. (Copyrighted by the Humboldt Publishing Co.) New York: 28 Lafayette place. Pamphlet, pp. 129.

This work of Björnström's is a careful *résumé* of the labor of the prominent hypnotisers, especially of the French schools. The subject is considered in its medical and legal bearings, and contains the report of many cases of cure—cases, we confess, that seem very startling, but which are vouched for by good observers. "They are all honorable men," but they do tell some mighty big stories. To the book is appended a bibliography of modern works. J. W. P.

The Physician's Hand-Book for 1890. By A. D. ELMER, M. D.

This popular standard hand-book, which has been issued for over thirty years by the W. A. Townsend Publishing Co., has been transferred to the publishing house of G. P. Putnam's Sons, 27 and 29

West 23d street, New York. This hand-book combines the conveniences of a diary with those of a manual, and is of great benefit to the practising physician. This edition has been thoroughly revised—containing all the recent discoveries in materia medica and therapeutics, together with the new remedies which of late have come in vogue.

It is bound in English morocco, pocket-book form, and is retailed at $1.50.

BOOKS AND PAMPHLETS RECEIVED.

The National Medical Dictionary, including English, French, Italian and Latin technical terms used in Medicine and the Collateral Sciences, and a Series of Tables of useful data. By John S. Billings, A. M., M. D., LL. D., Edin. and Harv., D. C. L. Oxon. Vol. I., A to J. Vol. II., K to Z. Philadelphia: Lea Brothers & Co. 1890.

A Hand-Book of Diseases of Women; Including Diseases of the Bladder and Urethra. By Dr. F. Winckel. Authorized Translation. Edited by Theophilus Parvin, M. D. Second edition. Revised and enlarged with 150 illustrations. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1889.

A Guide to the Diseases of Children. By James Frederic Goodhart, M. D., F. R. C. P. Re-arranged, revised, and edited by Louis Starr, M. D. Second American, from the third English edition, with numerous Formula and Illustrations. Philade'phia: P. Blakiston, Son & Co. 1889.

Quiz-Compends. No. 4. A Compend of Human Physiology. Especially adapted for the use of Medical Students. By Albert P. Brubaker, A. M., M. D. Fifth edition. Revised and enlarged. With new illustrations. Philadelphia: P. Blakiston, Son & Co. 1889.

Through the Ivory Gate. Studies in Psychology and History. By William W. Ireland, M. D., Edin. New York: G. P. Putnam's Sons. Buffalo: Peter Paul & Bro.

Ennucleation of Tuberculous Glands. By Thos. W. Kay, M. D., Scranton, Pa. Reprint from the *Medical Register*, February 9, 1889.

Further Observations on Malarial Keratitis. By Charles J. Kipp, M. D., Newark, N. J. Reprint from the Transactions American Ophthalmological Society. 1889.

Persistent Headaches, and How to Cure Them. By Julian J. Chisholm, M. D., Baltimore, Md. Reprint. Baltimore: Guggenheimer, Weil & Co., printers.

Report of the Commissioner of Education for the Years 1887-88. Washington: Government Printing Office. 1889.

A Malignant Tumor in an Umbilical Hernial Sac, with Remarks on the Etiology of Cancer. By Daniel Lewis, M. D. Reprint from the *Medical Record*, Oct. 12, 1889.

Erythroxylon Coca; Its value as a Medicament. By Marc Laffont, M. D., Paris. Reprint from the New York *Medical Journal*.

Misplacements of the Uterus. By Mary A. Dixon Jones, M. D., Brooklyn, N. Y. Reprint from the Pittsburgh *Medical Review.*

Some Physiological Facts bearing on the Production of the Nasal Vowels. By B. Loewenburg, M. D., Paris and Berlin. Reprint from the *Medical Press and Circular*, 1889. London: Bailliere, Tindall & Cox, publishers.

The Surgical Treatment of Volvulus. By N. Senn, M. D., Ph. D. Reprint from the *Medical News.*

A Digest of Twenty Years' Experienee in the Treatment of Uterine Cancer, including 367 Operations by Galvano-Cautery. By John Byrne, M. D., M. R. C. S. E. Reprint from the American Gynecological Society's Transactions, Vol. XIV., 1889.

Homeosis. By B. Fincke, M. D., Brooklyn, N. Y. Reprint from the *Journal of Homeopathics.*

Sanitary Entombment; the Ideal Disposition of the Dead. By the Rev. Charles R. Treat. Reprint from *The Sanitarian*, December, 1889.

Dr. Kállay's Artzlicher Almanach for 1890. Eleventh year. Vienna: Wilhelm Braumuller & Son. 1890.

Higher Medical Education and How to Secure It. The Annual Address before the Alumni Association of the University of Maryland. By Richard H. Lewis, M. D., of Raleigh, N. C.

The American Academy of Medicine; its Objects; its Signs of Promise and its Obstacles; its Field of Work; and Some Suggestions Looking to an Increase in its Efficiency. By Leartus Connor, M. D., A. B., Detrioit, Mich.

The Preferable Climate for Consumption. By Charles Denison, A. M., M. D. Reprint from the Transactions of the Ninth International Medical Congress. Vol. V. 1887. By order of the Legislature of Colorado.

Cornell University, College of Agriculture. Bulletin of the Agricultural Experiment Station. Agricultural Department. XIII. I. On the Deterioration of Farm Yard Manure by Leaching and Fermentation. II. On the Effect of a Grain Ration for Cows at Pasture. XIV. I. On the Strawberry Leaf Blight. II. On Another Disease of the Strawberry. December, 1889. Published by the University, Ithaca, N. Y.

Twenty-first Annual Report of the Trustees of the Willard Asylum for the Insane, for the year 1889. Albany: James B. Lyon, State Printer.

Third to the Sixth Annual Reports of the Buffalo Hospital of the Sisters of Charity, including the Emergency Hospital. November, 1885, to November, 1889. Buffalo: Baker, Jones & Co. 1889.

Annual Report of the Rhode Island Hospital. 1889.

Lawrenceville School. John C. Green, Foundation. 1889-1890. The Princeton Press.

Thirteenth Annual Report of the Buffalo Eye and Ear Infirmary. Published by order of the Trustees. 1889.

State Board of Health Bulletin. Nashville, Tenn. December 20, 1889.

Monthly Bulletin of the New York State Board of Health. November, 1889.

Health in Michigan. December, 1889.

Weekly Abstract of Sanitary Reports. U. S. Marine Hospital Service. Vol. IV., Nos. 51 and 52. Vol. V., Nos. 1, 2, 3, and 4.

Literary and Other Notes.

Our acknowledgments are due to the following named houses for handsome and useful calendars for 1890: Parke, Davis & Co., Detroit; E. B. Treat, New York (The Don't Forget It Calendar, price 20 cents); F. D. Van Horen, New York; and the Davidson Rubber Company, Boston.

The holiday number of the *Trained Nurse* (Lakeside Publishing Company, Buffalo, N. Y.) contains much of interest, and is handsomely printed. The scheme of a proposed organization, to be known as the New York State Trained Nurses' Association, is published in this number, which will prove of importance to all concerned. We see no good reason why the nurses should not form themselves into organizations for mutual improvement, and heartily wish them success in everything that may contribute to that end.

The North Carolina Medical Journal, one of our valued exchanges, appears in an improved form for 1890. This journal is making a strong claim for extended favor from the profession, not merely in North Carolina, but beyond the limits of that sturdy commonwealth. We wish it the full measure of success that it so well merits.

Belford's Magazine for January, 1890, is an attractive number, containing, among other articles of interest, two from the pen of the late Jefferson Davis: one on Andersonville and Other War Prisons, part i., and the other An Autobiography. The other papers, besides the stories, discuss questions of politics, economy, and social problems. The price of this magazine is so reasonable—$2.50 a year, single numbers 25 cents—and its appearance so attractive, that it cannot fail to receive an ample and deserving support.

The Detroit Free Press Souvenir for 1890 is a handsome specimen of the printer's and engraver's arts. It is sent free to all who forward a year's subscription to the weekly edition at any time within twelve months from November 1, 1889. We will furnish the *Weekly Free Press*, including the souvenir, and the Buffalo Medical and Surgical Journal for 1890 for $2.50. The regular price of the two is $3.00.

Buffalo Medical and Surgical Journal

Vol. XXIX. MARCH, 1890. No. 8.

Original Communications.

GASTRIC AND DUODENAL ULCERS.

By CLARENCE KING, M. D., Machias, N. Y.

Physician to the Cattaraugus County Alms House and Insane Asylum.

A positive diagnosis of gastric or duodenal ulcer is conceded by all authors to be difficult in the great majority of cases. This is due, first, to the hidden position of the organs involved, thus making a satisfactory examination difficult; second, to the frequent resemblance which the various functional and other structural diseases, notably cancer, show to ulcer; and third, to the great variation which occurs, even in the most constant and characteristic symptoms. Indeed, leaving out of consideration the evidence afforded by a chemical examination of the secretions of the stomach, we may say that there is no symptom of ulcer universally present in this disease, and no one but may be developed when ulcer does not exist. There is, however, evidence to show that ulceration in this position does occur with greater frequency than has been generally believed. Many cases doubtless recover without the true condition ever being suspected, while many fatal cases are credited to other causes and the diagnosis never corrected by autopsy. Welch has collected the histories of 32,052 autopsies in which the stomach was examined, and in these there were 1522 open ulcers or cicatrices present, a percentage of nearly 5. But while gastric ulcer is thus shown to be a relatively common disease, true duodenal ulcer is very rare. Pepper has stated,[1] as recently as May last, that it is doubtful if more than 70 authenticated cases are on record, to which number, however, he adds another verified by autopsy, and one believed to be duodenal, but in which recovery took place.

1. Journal of the American Medical Association, May 25, 1889. See also *Medical and Surgical Reporter*, February 15, 1890, where he reports another probable case.

The etiology of gastric and duodenal ulcer is clouded in obscurity. Many theories have been advanced to explain their causation, some of which appear tenable while others have long since been rejected. The best known of these theories, perhaps, is that of Virchow, who sought to explain the causation of ulcers in these situations by the occurrence of minute emboli or thromboses, and consequent stasis in the blood current in circumscribed areas with subsequent digestion of these areas by the gastric juice. Although apparently supported by abundance of pathological and experimental data, there are serious anatomical objections to the acceptance of these views. The anastomoses of the gastric and duodenal vessels are very abundant, and it is difficult to conceive how an embolus or a thrombus could seriously interfere with the circulation. Besides, why should the obstruction occur so much more frequently in the stomach and first horizontal third of the duodenum than elsewhere?

Extensive burns of the abdominal walls are well-recognized causes of duodenal ulcers, and a few cases are on record in which gastric ulcers have been produced in this way. In such cases the ulcer is produced traumatically and the duodenum, from its more exposed position, suffers the oftenest. It is difficult to give a satisfactory explanation why the colon, which is still more exposed to external traumatic influences, should so universally escape in these injuries without ulcer. Blows and kicks in the region of the stomach, the ingestion of hot foods and drinks, and the introduction of foreign substances into the circulation have each been experimentally shown to be capable of producing ulcer of the stomach. Various other causes have been assigned, some of which are supported clinically and are, undoubtedly, occasional causes; but others may be regarded only as proofs of the imaginative genius of the human mind.

The following cases are here reported as being of clinical interest:

CASE I.—GASTRIC ULCER. PAIN, VOMITING, HEMATEMESIS. DEATH FROM EXHAUSTION AFTER NINE MONTHS.

Mr. A. W., age 54, a carpenter by trade, always been very strong and healthy. Mother died of cancer. No tubercular or syphilitic taint.

About the first of June, 1886, he began to suffer with symptoms of indigestion. His food distressed him, and at times he suffered some pain in the stomach, which came on a short time after eating, and continued for two or three hours. In the interval he would be entirely free from pain. His bowels were constipated, tongue furred, appetite poor, nausea and occasionally vomiting present.

These symptoms continued to grow worse until he was obliged to seek treatment. Often, while at his work, the pain would come on and be so severe as to oblige him to lie down for a period varying from twenty minutes to an hour. After this he would be able to resume his work. He gradually lost flesh and became anemic. He was put on an anti-dyspeptic treatment which, he thought, afforded some relief.

About December 1st he vomited nearly three pints of bright red blood and two days afterward about as much more. As a consequence his countenance became very much blanched. He was weak and very nervous with a small and rapid pulse. Upon deep pressure a small, indistinct tumor could be felt and, as his countenance had assumed a somewhat cachectic appearance, he was thought to have a cancer of the stomach. No chemical examination was made of the secretions from the stomach. He was kept on his back and ice applied to the epigastrium. Hypodermic injections of ergotin and morphia were given, and nourishment administered by the rectum. After this emesis seldom occurred, but occasionally a small amount of blood was found in the vomited matter, and he still experienced considerable pain. He began slowly to improve and, after three weeks, he was allowed a tablespoonful of milk, *per orem*, every two hours. This caused him no distress and the amount was gradually increased until, finally, he was allowed small quantities of solid food.

About February 1st, he began to fail again and required more morphia to relieve the pain. He vomited occasionally, but no blood. We could not see as he was losing flesh, but his countenance was pinched and anemic and decidedly cachectic. He died on the 15th, six weeks after his last hemorrhage.

The autopsy revealed an ulcer, as large as a quarter of a dollar, on the greater curvature of the stomach, near the pylorus, with induration to the extent of an inch around it. The liver was much enlarged; other organs normal.

This case presents nothing novel in its clinical history and may be taken as typical of the disease. With it we will compare other cases which have come to our observation.

CASE II.—GASTRIC ULCER OF MANY YEARS' DURATION. REPEATED ATTACKS OF ACUTE PAIN AND VOMITING; HEMORRHAGE, PERFORATION, DEATH.

Mr. W. C., age 66, a farmer and hard-working man. Drank some when young, but later became strictly temperate.

When a child eight or ten years of age, he began to have trouble with his stomach which occasionally amounted to positive pain.

This gastric uneasiness or pain occurred for the most part during the intervals of digestion, and he was in the habit of carrying a crust of bread in his pocket to eat when his stomach felt bad, and for some years this would relieve the pain; later he carried a can of sweet milk or buttermilk for the same purpose. When still a young man he began to have acute attacks of severe gastric pain, accompanied by emesis, which the ingestion of food increased rather than alleviated. These attacks occurred without apparent cause, lasted from three to five days, and while they continued he was unable to take any food into his stomach on account of the pain which it occasioned, requiring large doses of morphia to allay it. He was unable to rest in bed for more than a few minutes at a time, and the little sleep he obtained was mostly secured when sitting upright in a chair with his body bent forward and his head resting on a table or chair in front of him. All the nourishment he took during the attacks was by the rectum. He would declare at each attack that he was going to rely entirely upon rectal alimentation even for six months to obtain a permanent cure for his disease, but each time would return to nature's method of taking food soon after getting better. He vomited frequently, sometimes blood more or less changed by the gastric secretions, and always felt easier after vomiting. Often, when in the greatest pain, he would put his finger far down into his throat for the purpose of provoking emesis. When free from pain he dreaded to move for fear of bringing it on again.

His last attack occurred the first of November, 1886. It resembled in all particulars those which he had suffered before, except that it followed more closely upon the one that preceded it. Hypodermic injections of morphia in one-quarter grain doses were required every two hours to relieve, to any extent, the pain. He vomited repeatedly, bringing up each time the dark, coffee-ground matter, indicative of hemorrhage. He rapidly lost strength and became very anemic. His pulse became very weak and irregular. Ergotin and digitalin were given him hypodermically and whiskey by the rectum. After suffering intense pain for about three days he gradually became easier and was able to lie down in bed, the moderate pain which he still had being transferred to his abdomen. His voice was weak; his features pinched; his extremities cold. His mind was clear and he conversed freely with his family. He continued in this condition for nearly two days, vomiting occasionally, and, finally, died in syncope on the 8th.

Autopsy. Upon opening the abdominal cavity, the stomach and intestines were found firmly bound together and to the other organs in this region, the result of inflammation. Adhesions existed between

the stomach and the pancreas, diaphragm, meso-colon, liver and intestines. An ulcer, the shape of a three-leaf clover, each third being an inch and a half in diameter, was found on the greater curvature of the stomach, near to but not involving the pylorus. At the bottom of the part which was situated on the anterior wall was a perforation about an eighth of an inch in diameter, through which fluids had passed into the abdominal cavity. In trying to separate the posterior wall from the pancreas an opening was made into the stomach, and, upon closer examination, it was discovered that the wall of the stomach was entirely wanting at this point and that the ulcer extended quite deeply into the substance of the pancreas. The stomach was smaller in size than normal and the walls thickened and inflamed, especially for some distance around the ulcer and in the pyloric region. The pyloric outlet was opened sufficiently to admit the index finger and the organ was empty, except the mucus, which bathed the surface of the ulcer and contiguous walls. No cicatrix was found in any part.

This case is of interest from the size and shape of the ulcer and the duration of the disease. My father, the late Dr. Thomas J. King, made a diagnosis of ulcer nearly thirty years ago and I am assured that his condition existed practically the same for some years before that time. His earliest symptoms point to functional disease, and it is impossible to state just when that gave place to structural changes.

Some physicians might regard this as an example of the recurrent form of ulcer in which one ulcer succeeds another. In such cases numerous cicatrices are found indicating the site of former ulcers. But as no cicatrices were found I consider it as a single ulcer in which the destructive alternated with the reparative process, and in which ulceration attacked the newly formed cicatricial tissue before it became firm or the process of cicatrization was completed.

CASE III.—PROBABLE GASTRIC ULCER IN A CHILD SIX YEARS OLD, THE RESULT OF PRESSURE. RECOVERY AFTER REMOVAL OF THE PRESSURE.

This patient was under my care at the Cattaraugus County Alms House.

Some months before being admitted to this institution he fell and injured his spine so as to make it necessary for him to wear a plaster-of-Paris jacket fitted with a jury mast. He improved under this treatment and was soon able to run around the room, inconvenienced somewhat, of course, by his confinement. He was very active and, owing to the small size of his hips, it was difficult to make a jacket

that would keep its place and not work downward. After be ng under my care for a few weeks he began to have attacks of vomiting and said it hurt him in his stomach, especially after taking food even milk causing him distress. For this reason the attendants found it difficult to coax him to take any nourishment whatever. He rapidly lost strength and weight. Occasionally he vomited small amounts of blood, but it was never present in large quantity. He had no fever. I removed the jacket and applied a new one, making it tight around the hips but leaving it loose over the stomach. His food was limited to milk and barley water, which he took in small quantities by the stomach. He began to improve and, in three weeks, was free from pain, had ceased vomiting, was eating well and had regained some of his lost flesh. As the vertebral injury had likewise improved and as he was able to carry his head without artificial support the jacket was removed, and he was allowed to return to his parents in a distant town.

This case lacks the positive evidence of an autopsy to confirm the diagnosis of ulcer, but I have thought that an ulcer would explain the symptoms more satisfactorily than any other malady. If we accept this diagnosis the case is doubly interesting: First, from the age of the patient, and second, from the probable cause of the ulcer, viz., pressure from an improperly applied jacket.

The treatment of the case, aside from that already indicated, was simple. He was given opiates to control the pain, cod liver oil, and wine of pepsin with dilute muriatic acid in medium doses. It would have been well-nigh impossible to have succeeded at rectal alimentation and the attempt was not made. I have never heard from the patient since he left the institution.

CASE IV.—DUODENAL ULCER.—PAIN; VOMITING; PERFORATION; DEATH.

This case occurred in the practice of my father, the late Dr. Thomas J. King, and was seen professionally by me but once before his death.

Mr. H. P., age 68, had always been a hard-working man, and, in his younger life, was very strong and healthy. Later he became a vegetarian in his diet, and lived for years almost entirely upon grahame, suffering more or less frequently with attacks of pain at the pit of the stomach, which were always attributed to some foolish venture upon forbidden food. These paroxysms sometimes lasted several days and were generally accompanied by vomiting, but the character of the matter thus expelled is not made clear by the history which I am able to obtain.

In October, 1887, he had one of these attacks and was obliged to call a physician. He suffered intense pain in the epigastric region and

vomited repeatedly, the matter expelled presenting the characteristic coffee-ground appearance. He was unable to retain any food in his stomach and, for some days, was nourished by rectal enemata. He also passed this same dark, coffee-ground fluid by the rectum, but this occurred only once or twice and was not very great in amount. He became pale and restless and refused stimulants. His pulse was small and rapid, his tongue furred, his extremities cold. The bowels were distended and tympanitic and exquisitely tender to pressure; the pain radiated through the whole abdomen, to the back between the shoulders, and to the sacral region. He died December 11th.

Autopsy made by myself: Patient well nourished, the subcutaneous fat being preserved. Stomach partially distended with fluid of the same character as that vomited. Pyloric end of stomach and duodenum bound to neighboring structures by adhesions. An ulcer, the size of a nickel, was found on the anterior wall of the duodenum, an inch below the pylorus, and at the bottom of the ulcer a perforation through the remaining coats of the bowel. Stomach somewhat inflamed at the pyloric extremity, pylorus patulous; other organs normal.

REFLEX ASTHMA, ESPECIALLY OF NASAL ORIGIN.[1]

By FRANK HAMILTON POTTER, M. D., Buffalo, N. Y.

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ASTHMA is a symptom. All attempts to give it a distinct pathology have failed. It is associated or dependent upon so many conditions, that it is frequently very difficult, especially in its early stages, to determine upon what changes its peculiar phenomena depend. It should, therefore, be studied as pain and cough are studied. It indicates a morbid process somewhere in the economy, generally, perhaps, in the respiratory organs, but not necessarily there. If the theory of Weber is correct—and there is no other that seems to fulfil so many of the elements of the case—then any cause which will produce a paralysis of the vaso-motor nerves, governing the calibre of the blood-vessels of the bronchial mucous membrane, will develop an attack of asthma. Just why a particular irritation in a given case should lead to this chain of events, we do not know. We accept as a fact that an indiscretion in diet, for instance, will sometimes produce an asthmatic paroxysm, just as we accept the observation that an accumulation of wax in the ear may be the cause of a persistent cough.

1. This paper was part of a discussion on Asthma, before the Buffalo Pathological Society January 17, 1890. The other papers were not presented for publication—(EDITOR.)

Dr. Andrew H. Smith[1] has reported a case of asthma, in which a lobster salad caused a paroxysm with unvarying certainty. He says, also, that these cases are by no means rare, and that the term dyspeptic asthma is an entirely legitimate one. Leaving out of consideration the causes acting directly upon the lungs, and also those arising from cardiac disease, we find that, besides the stomach just referred to, the starting point of an asthmatic attack may be in the intestines, upon the skin, in the mouth, the nose, and naso-pharynx. There is some relation, also, between the uremic, lithemic, and gouty constitutions and asthma. Trousseau reports the case of a boy of five years with undoubted asthma, who, two years afterward, developed a typical gouty arthritis, during which the attacks of asthma entirely disappeared. We see, therefore, that the subject of reflex asthma is a very wide one—altogether too wide to come within the limits of this paper, and too wide also to be covered by my experience. This paper will be limited to that class of cases of which I can speak from some personal observation, viz: Asthma depending wholly or in great part upon disease in the nose and naso-pharynx. And while this subject will be presented as strongly as possible, I ask you to remember that the other factors in the case are never lost sight of. In the present state of our knowledge, it seems necessary to assume in every case of asthma—

1st. A general neurotic condition as originally, I believe, advocated by Salter.

2d. A pathological area somewhere in the economy, and

3d. Some exciting cause, possibly in the atmosphere, possibly in the food, but generally unknown.

With these general propositions constantly in mind, we can discuss the irritations arising from any special region, without adopting the mistaken view that asthma is always dependant upon disease of this region, or always complicated by it.

About the same time that Weber announced his theory of vasomotor paresis, Voltolini reported the cure of a case of asthma by the removal of a mucous polyp from the nasal passages. And he is considered, almost universally, to have been the first to demonstrate the relationship between the upper and lower air-passages in this disease. John N. Mackenzie[2], however, has shown that this is erroneous, and has pointed out from the writings of Aurelian, Zecchius (1650), Schneider, Floyer, (1726), Bree, (1811), Trousseau, Follin and Duplay, and Feber, (1869), that the association of nasal disease and asthma was known long before the time of Voltolini. And he states that Feber, referring to the frequent association of sneezing, migraine,

1. New York *Medical Journal*, January 19, 1889.
2. Transactions of the American Laryngological Association, 1886-1887.

hay-fever, and bronchial asthma, advanced the theory that these phenomena were the expression of a neurosis of the trigeminus nerve—a theory that has recently been resurrected in a modified form by Schadewaldt. Voltolini, however, was the first to cure a patient by removing the nasal disease, and thus he definitely fixed attention upon the morbid conditions of the nose as often being an element in the production of asthma. Since then, much has been written upon this question, especially by Hanisch, Porter, Daly, Todd, Spencer, John N. Mackenzie, Roe, Schäffer, Bresgen, Hack, Bosworth, and others. The evidence is so large, and has been so carefully presented, as to place the subject beyond controversy. Next to the bronchial tubes, the most important area conceived in the respiratory vaso-motor disturbances is found in the nasal passages, and it only remains to determine what conditions there act as predisposing and exciting causes of asthma, in what way they do this, and what treatment is necessary to remove them. We know that the nose becomes an easy prey to morbid processes. This is so from its genesis, from its situation, and from its peculiar physiology. From its genesis we have errors of formation, from its situation it is liable to trauma, and from the important part it plays in respiration, in phonation, and in olfaction, we have an organ highly developed and very sensitive. When disturbed, it affects directly and indirectly the rest of the organism, especially the respiratory tract—directly, through the continuity of its lining membrane, and by developing, when obstructed, the necessity of mouth breathing; indirectly, through the nervous system. The relation between the nasal mucous membrane and the nervous system, was clearly formulated by Dr. Jacobi, in a paper[1] upon the effects of nasal polypi in children. His conclusions were:

1st. The trigeminus, with all its branches, is subjected to direct or reflex irritation, arising from the inflamed condition of the nasal mucous membrane.

2d. The thickening of the mucous membrane, in the narrow nasal passages of the child, and especially the presence of a polypus, seriously interferes with respiration, and the result is the accumulation of carbonic acid gas in the brain, particularly about the respiratory center at the medulla oblongata.

3d. The lymphatic system of the nasal mucous membrane and that of the dura-mater and the arachnoid membrane are in intimate relation with each other, which is so close that they can be injected from either side.

According to Roe[2] there are two forms of nasal disease which may establish this relationship and provoke attacks of asthma:

1. New York Medical Journal, 1883, p. 376.
2. Journal of the American Medical Association, September 15, 1883.

1st. The most frequent form resulting from narrowing or occlusion of the nasal passages by hypertrophied tissue or nasal polypi.

2d. That induced by disease of the pituitary mucous membrane, unassociated with hypertrophy or polypi.

The first is both mechanical and reflex in its character, while the second is purely reflex.

Bosworth—whose contributions are the latest as well as the most positive we have upon the subject—includes, besides hypertrophies and neoplasms, the bony deformities and deflections, and diseases of the naso-pharynx, as conditions that may lead to the development of asthma. He says that he has never seen a case of asthma without an obstructive lesion of the upper air-passages. He accepts the theory of vaso-motor paralysis, and explains the connection between the mucous membrane of the nose and that of the bronchial tubes as follows[1]: "The most intricate, the most delicate, and most important part of the whole respiratory tract lies in the nose, in that mass of blood-vessels which we call the turbinated tissues, and which serve to supply the inspired air with moisture, by pouring out upon the surface of the mucous membrane a large amount of water—sixteen ounces in the course of the day—by which the inspired air becomes saturated with moisture, this function being necessarily regulated with an extreme degree of nicety of adjustment. This establishes, in what way or through what nerves or ganglia I do not discuss, but to my mind does unquestionally establish a most intimate connection between the two portions of the respiratory tract. The blood supply in the nose being regulated by the same vaso-motor tract as that which regulates the blood supply of the bronchial tubes, a disturbance in one region is liable to be followed by a disturbance in the other; a morbid condition in one region renders the other especially susceptible to diseased processes. This, briefly, is the history of the connection between the two parts. Hence, we see, therefore, how a diseased condition in the nasal cavity may predispose a neurotic patient under favorable atmospheric conditions, to an attack of asthma; the same line of reasoning, as will be noted, being followed here as in the case of hay-fever." In support of these views, he presents the analysis of eighty cases of asthma, in every one of which there was found some obstructive lesion of the upper air passages. These were removed with the result of curing forty-seven, improving twenty-six, two remained unimproved, and five unknown.

I believe you will agree with the suggestion that Dr. Bosworth goes too far. The proposition that an obstructive lesion in the upper air passages *may* be a predisposing or even an exciting cause of an

1. Diseases of the Nose and Throat, volume i., p. 238.

asthmatic paroxysm cannot be controverted; but that is vastly different from saying that almost all cases of asthma are dependent upon or complicated by such lesions. It would take too long, and, indeed, it is not necessary to repeat what each of the writers above mentioned have said upon this subject. In the main, we can say that while the prevailing opinion is conservative as to the number, it is positive in the belief that in a certain percentage of cases of asthma, the principal fault is to be found in the nose or naso-pharynx. This being so, we can claim without qualification that all cases of this nature should be properly examined as to the condition of those organs, because, unless so examined, a prominent source of mischief may be overlooked to the great injury of the patient.

One more question remains to be considered, viz., the occasional association of urticaria, asthma, and coryza. On this point I cannot do better than to direct attention to the words of Mackenzie. Referring to the fact that the relation of asthma to skin affections was familiar long before the days of Trousseau, he says: "Thus the illustrious Hoffmann mentions, as a fact of common experience, that asthma sometimes follows the suppression of a cutaneous rash; and before him Baglini had recommended, in such an event, that the patient should sleep with one having the "scabies," that, catching it, he might be relieved of his asthma. It is also related that William of Orange was cured of an inveterate asthma during the running of a sore on the shoulder, produced by the famous cannon-ball wound received at the battle of the Boyne. In the condition of affairs we are discussing, the coryza may precede the asthma and urticaria in time of appearance, disappearing or remaining after their eruption; or the asthma or urticaria may antedate the attack of coryza; or, finally, instead of alternating the one with the other, they may appear simultaneously in the individual. These phenomena seemingly depend on an imperfectly defined neurosis or vaso-motor influence (possibly some derangement of the cervico-occipital sympathetic), which is probably the connecting link between these affections. Now, in attempting to define the reciprocal relationship between this triad of conditions, we may regard the skin essentially as a part of the respiratory tract,—as the external organ of respiration. It is only necessary for me to recall the physiological importance of the skin in respiration among some of the lower animals, and the embarrassment of respiration in man from pathological or experimental suppression of the cutaneous function. We may accordingly regard this neuro-vascular disturbance of the external surface as a natural symptom of the respirator, vaso-motor neuroses, and

1. Op. cit.

assume that, while the relation of asthma and coryza may be explicable by a possible normal sympathy existing between the two extremities of the internal respiratory tract, both asthma and coryza may be linked to the skin affection by a sympathetic bond which holds in equilibrium and close consent the whole mechanism of the respiratory function."

In conclusion, the treatment of the lesions, under discussion, demands a few words. We have seen that they are essentially obstructive, and are generally found in the nose and naso-pharynx. They must be removed by surgical means. Medical measures are at the best unsatisfactory and tedious—generally they fail entirely. It is not necessary to consider the method of the operations now usually employed to remove obstructive lesions in these parts, but simply to say that according as the latter are of the hard or soft tissues, we use the saw, trephine, and chisel, or the snare, scissors, and cautery. These measures have been, and still are, severely criticised in some quarters. As an example, the words of Lemoyez[1] may be quoted: "The nose is becoming everything, is encroaching upon, and threatening to swallow up all pathology. Before yesterday asthma, yesterday stridulous laryngitis, to-day aprosexia are made tributary to it. In the name of progress, everything is snared or cut away." This is witty, but it is not true. In so far as it is proposed to treat in a surgical manner the diseases of the nose that may be causative factors in the production of asthma, there is no thought of proceeding upon any new or strange surgical principles. Certainly, no one would think of attempting to correct deformities of the bones, or remove neoplasms, or restore obstructive channels elsewhere by the use of powders, sprays, washes, and salves; neither can these things accomplish much in removing the same lesions when found in the nose. If you have a case of asthma dependent upon or complicated by an obstructed nostril with pressure between the middle turbinated bone and the septum, for instance, you must operate before you can expect to remove that element from the case. I am not defending nasal surgery in general; that is another question, but specially with reference to the subject in hand. It has been proved that some cases of asthma result from obstructions in the upper air passages. These obstructions are of many kinds, and act in a peculiar and complicated manner. It is, therefore, necessary to ascertain in all cases of asthma, whether they are present or not. If they are, I believe that if properly removed, many cases of this disease would yield to treatment, and the percentage of recoveries be much larger than it is to-day.

1. The Journal of Laryngology, June, 1888, p. 231.

Society Proceedings.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Reported by W. R. TOWNSEND, M. D., Secretary.

STATED MEETING, JANUARY 17, 1890.

V. P. GIBNEY, M. D., Chairman.

Dr. W. R. TOWNSEND presented a case of Congenital Talipes—Right Equino-Varus, and Left Calcaneo-Valgus. The case was of considerable interest, on account of its rarity. Mr. Tamplin states that out of 764 cases where the deformity was congenital, there were only fifteen in which there was varus of one foot and valgus of the other; and only nineteen cases of calcaneus. Dr. Townsend said that this case came to him at the Hospital for Ruptured and Crippled, on December 23d, when only ten days old. It was the mother's second child, and the labor had been normal. There was no history of club-foot in the family. He had already commenced treatment of the right foot, consequently the deformity was not so marked as when he had first seen the case.

Dr. A. M. PHELPS said that this was only the second case of the kind that he had seen; and, in connection with it, he desired to present a plaster cast of two feet removed from the womb of the mother, after her death, at the sixth or seventh month of utero-gestation. It showed equino-varus of the left, and calcaneo-valgus of the right foot, and was an admirable example of the manner in which the deformity had been produced by the pressure of the uterus. There was no history connected with it, beyond what had been stated. The original is in Prof. Volkmann's museum at Halle, Germany.

Dr. JOHN RIDLON remarked that the chief interest in this class of cases is connected with the subject of their causation. He had seen only one other case, which was shortly after the publication of Dr. H. W. Berg's paper on this subject. This patient had the same deformity, and, in addition, clubbed hands on both sides.

Dr. V. P. GIBNEY did not think he had seen more than three or four such cases in an experience of eighteen years. He thought that the retarded rotation theory, as explained by Dr. Berg, accounted very well for these cases.

Dr. A. B. JUDSON said, in regard to the foot affected with calcaneus, that although at first sight it appeared to be a severe deformity, it was quite amenable to treatment, and cited a case pub-

lished by Dr. Churchill, of Iowa, in support of this assertion, in which he advised simple manipulations, and made an appointment to do a tenotomy one month later. At the end of that time, he was surprised to find that the deformity had entirely disappeared. In another similar case reported by Dr. Prouty, of New Hampshire, the trouble was entirely remedied by the same simple manipulations, so that when the child began to walk, the foot was absolutely normal. A remarkable case had been reported by Dr. Gibney, a few years ago, to the New York Pathological Society, in which the calcaneus was so extreme that the digits had made indentations on the anterior part of the leg.

The paper of the evening on

THE OPERATIVE TREATMENT OF TALIPES CALCANEUS, PARALYTIC,

was read by Dr. V. P. Gibney, who exhibited eight patients, illustrating the advantages of the operation described in his paper. This operation was that which Mr. Willett, of St. Bartholomew's Hospital, published in the St Bartholomew's Hospital Reports, in 1880. The technique is as follows: A large V-shaped incision over the posterior aspect of the leg, lower fourth, the stem of the V ending at the os calcis,—the stem itself about one and a half inches in length, while each side of the V-shaped portion is about two and a half inches long. The incision exposes the sheath of the tendon. The V-flap is then dissected, the sheath is opened, and the tendo Achillis raised from its bed by a curved director. A strong catgut ligature is passed through the upper portion of the tendon to serve as a means of preventing retraction after section; and the tendon is cut through obliquely, this section being made as oblique as possible. With the vulsellum forceps, each end of the tendon is grasped, and the upper portion pulled down towards the os calcis, while the foot is fully extended and the knee slightly flexed.

The tendon is sutured together with catgut, back and forth, with about three or four heavy sutures; and the end of the V-flap brought down to the end of the stem, and the edges sutured, taking every alternate stitch through the tendon itself.

The aim is to convert the V-shaped wound into a V-shaped cicatrix. It is better to use catgut altogether, in order that the wound may not be disturbed for three or four weeks. Dressings, and plaster-of-Paris, which extends from the toes up to the middle third of the thigh, the knee being flexed to an angle of about 120 degrees, and the foot extended to the full limit, complete the procedure. The operation practised by the reader of the paper differs a little from that of Mr. Willett, in the following particular: Mr. Willett used wire, and

exsected a portion of the tendon. The wire he used was merely for fastening the ends of the tendon together. The objections offered to his mode were that the wire cut through the tendon, and that one was in danger of removing too much tendon.

The paper was based upon an analysis of twenty-eight cases operated upon during the past six years. The results showed seventeen good, eight fair, and three poor. The term "good" was defined as a useful foot, without any relapse after a sufficiently long time; ability, also, to walk without a brace or support of any kind. "Fair" was defined as a slight stretching of the cicatrix, but not enough to impair the usefulness of the foot. Shoes with the heel raised and a steel tongue are also required to make the gait satisfactory. "Poor" referred to those cases where the cicatrix had stretched and the deformity had relapsed.

The general results, however, were very satisfactory. The time elapsing between the operation and the date of the last observation was as follows:

From three to twelve months,	9
From one to two years,	15
From two to three years,	1
From three to four years,	1
Five years,	1
Six years,	1

Sixteen healed by first intention; twelve by granulation. Of those healing by primary union, ten were good, three fair, and three poor. Of those healing by granulation, six were good, five fair, and one poor. In those where granulation took place, the tendon sloughed in three instances, and a portion was removed through the wound. In no instance was a brace required, but particular attention was given to the building of the boot or shoe. The instructions were to have the heel raised at least one inch, to have a stiff counter, and a leather tongue reinforced by tempered steel. The hopelessnes of paralytic calcaneus was discussed at length; the difficulty of correcting the deformity by means of apparatus; the great strain on the spring itself; the frequency of breakages; and the satisfactory results generally.

Dr. Joseph D. Bryant said that he had been especially interested in the statement regarding the changes, which in many cases occur in the length of the new tissues, which had been connected by the operation with the tendo Achillis. The subject was of much importance as bearing upon the question of the behavior of cicatricial tissue elsewhere in connection with the repair of deformities of another kind;

and although it does not follow that, because fibrous tissue in this particular situation retracts after the force has been taken from it, that fibrous tissue will do the same thing elsewhere, the subject becomes of immense practical importance in connection with the recent methods for the radical cure of hernia. If we study the behavior of the cicatricial tissue of burns when put on the stretch, we shall find that it will stretch, but that when released, it will return to its former position, or even become more contracted. Such tissue might properly be compared to rubber, which is tireless, while the tissue concerned in the operation under discussion, might be looked upon as rubber which has become tired.

He would like to know if one of the cases which showed such extreme loss of power, was likely to be benefited by a repetition of the operation.

Dr. C. A. Powers was particularly interested in the subject of tendon suture of the hand and wrist, in which he had had a considerable experience. He had become convinced that careful antiseptic suture of these cases with proper rest of the parts, yielded uniformly good results. Primary union seemed to be a requisite for a good functional result in hand and wrist cases; for, when healing took place by granulation, the tendons became caught in the cicatrix and there bound. He would like to know in what proportion of cases the author had secured primary union, and how the result seemed to be modified when healing took place by granulation.

Dr. R. H. Sayre had noticed that some of the patients exhibited were able to move the heel independently of the long flexor of the great toe, and he supposed that as the paralysis had been only partial, the shortening of the tendon had enabled the weakened mucles to act to better advantage. Such cases ought to be much benefited by the persistent use of massage and galvanism, and they present a much more favorable field for operation than those in which the paralysis is absolute; for, under such circumstances, shortening of the tendon only results in the formation of an unyielding fibrous cord.

The progress of the deformity, when untreated, must depend largely upon the amount of damage originally done to the spinal cord. He had seen patients with very marked cavus, who, instead of walking on the bottom of the heel, walked upon the posterior portion, which had, in consequence, developed an elastic buffer. He had hesitated to interfere, as such cases do not hold out much hope of improvement, and the gait is much better than the appearance of the foot would lead one to suppose was possible.

As regards treatment, he favored the use of a brace similar to the

one described by Dr. Gibney, or with an elastic spring to take the place of the gastrocnemius. Such an appliance will give the patient comfort, and enable him to move about with less of a wooden tread.

The results shown in the cases this evening are exceedingly good, but he was surprised at the amount of stretching which the cicatricial tissue had apparently undergone. The usual plea against tenotomy is that the resulting scar tissue tends to contract and reproduce the deformity. This, he thought, was a mistake; for the tissue obtained after a subcutaneous tenotomy, is not at all comparable to that obtained in an open wound by the process of granulation. There should be no more secondary contraction after a non-suppurative subcutaneous tenotomy than occurs in tissues after aseptic healing by blood-clot. Whatever elongation has occurred in the cases shown this evening, in all probability took place not in the cicatrix, but in the muscular fibres above, the paralyzed muscle being constantly antagonized by a normal muscle, and thus gradually stretched out.

Dr. RIDLON said that one of the patients exhibited had been seen by him last Summer, and he had then strongly favored tenotomy on account of extreme equinus which existed at that time; but he saw that the foot was now in good position.

In the mechanical treatment of this condition, he had been accustomed to employ the apparatus with the "rubber muscle" at the back; but since Bernard Roth, of London, published the description of his brace for drop-toe, with tempered spring at the back of the leg, he had considered that such an instrument, having a spring running from the garter line with a steel plate to the ball of the foot, was much better than those ordinarily in use.

Dr. H. W. BERG was inclined to take a gloomy view of these cases of poliomyelitis; yet he did not consider them entirely beyond help from neurological treatment. Were it conclusively proven that the nervous supply of the posterior group of leg muscles, for instance, is entirely derived from one level of the anterior gray horns in the spinal cord, or from one series of cells in the spinal cord, it is obvious that if these cells have been entirely destroyed, any electrical treatment must of necessity be useless as regards restoring power to the limb. But it has not been proven that the nervous supply is derived in this way, and it is barely possible that a few cells, giving rise to fibres of any one nerve have escaped the inflammation. The number of these nerve, fibres remaining may be so small as to escape notice in an electrical examination, and yet be sufficient to exert an important influence upon the movements of the foot. Hence, if

these healthy nerve fibres and muscle fibres to which they are distributed be stimulated by a galvanic current, they will take on a vicarious action under the irritation of the galvanic current, and will cause, even in old cases of poliomyelitis, as he had frequently observed, a decided improvement in the power to extend the foot. In his experience, fully ninety-five per cent. of the cases had been relieved, although none were cured. He did not think that even the most enthusiastic operators claimed that they did more than relieve their cases. A large number would certainly be benefited by the operation described by Dr. Gibney, but any operation including simply the soft tissues, was hardly a philosophical one, and could not be expected to give as good results as one which would fix the bony tissues.

It is evident that in the cases exhibited, the scar tissue has stretched as the children grew older and the weight of the body increased. This result could be postponed, but not everted, by furnishing a support for the foot.

Dr. JUDSON said that the difficulty in walking experienced by these patients, was due to their inability to use the anterior part of the foot, so that the toe cannot be pressed forcibly against the ground; and hence, they walk very much like one having a peg leg, or an amputation of the anterior part of the foot.

It has been stated that the aborigines of this country were in the habit of performing Lisfranc's amputation upon their captives, who were thus able to work in the fields, but were incapable of rapid locomotion towards liberty. A patient affected with talipes calcaneus is in practically the same condition.

The object of the operation described this evening, seems to be to restore some of this function of the anterior part of the foot, so that the patient, in walking, can bring the weight first on the heel and then on the toe; but it is not easy to understand how the operation can accomplish this, for it is essential that there be very firm union between the calcaneus and the upper extremity of the tibia along the line of the gastrocnemius. With one exception, the cases exhibited could not put their weight on the toe at the same time that the well foot was raised from the ground; nor is it reasonable to suppose that they will retain for any great length of time the slight connection between these parts. He was inclined to think that a cicatrix resulting from primary union, was less liable to contract than one which occurs after a long process of granulation. It is difficult to over-estimate the strain which falls on the tendo Achillis. The great mass of the muscles of the calf gives an indication of this force. The foot may be considered as a lever of the second class, the fulcrum being at

the toe, the weight at the ankle, and the power at the heel. The long and short arms of the lever are represented respectively by the portions between the ankle and toe, and the ankle and heel, and the strain produced by the weight of the body is thus multiplied as it falls on the tendo Achillis.

He thought that much could be done for these patients by mechanical treatment, and the object of his brace was to transfer some of the weight of the body to the anterior part of the foot. In the brace formerly described by him, there was a joint at the ankle to arrest motion at a right angle; but the brace has been rendered much more durable and equally efficient by the omission of the joint in the present instrument. The weight, which naturally comes on the plantar surface of the anterior part of the foot in a well person, with this apparatus comes upon the anterior part of the upper portion of the tibia in the neighborhood of its tubercle; so that the patient first strikes the heel, and then puts the weight upon the anterior part of the leg in its upper portion, thereby decidedly improving the gait. The sensation is very much like that of kneeling; for the weight, instead of coming on the ball of the foot as in the healthy person, comes on that part of the tibia which takes the weight when in the kneeling posture.

These cases cannot, of course, be cured by the use of such apparatus; but adult patients are often very glad to wear a simple and durable apparatus which improves the gait.

Dr. Judson remarked that Dr. C. Fayette Taylor had once said that one reason for the muscular degeneration which occurs in these cases, is that the weakened and half paralyzed muscles being compelled to endure such an enormous strain, yield at once; but if they are relieved by means of an apparatus of some of this duty, they are less likely to undergo such degeneration, and, therefore, the chances are better for ultimate improvement.

Dr. Frederick Peterson agreed with the reader of the paper regarding the uselessness practically of the galvanic and faradic currents in these old cases; for, he did not believe that the current could restore destroyed muscle fibre, or degenerated nerve fibres or cells.

Dr. H. L. Taylor said that in considering tenotomy, one must remember that in most cases not only the muscle but the tendon itself is atrophied, so that it is at times a mere thread. These cases of calcaneus are exceedingly difficult to treat, and any real advance will be very welcome; but he considered that the mechanical treatment was fairly satisfactory as a palliative measure. We can retain the foot in a position of election for an indefinite period, and improve locomotion by enabling the patient to transfer the weight from the

heel to the ball, not, of course, through the tendo Achillis, but by impinging on the upper end of the tibia by means of an apparatus.

He wished to lay emphasis on the statement that calcaneus could usually be prevented from developing, when these paralytic cases were seen sufficiently early. The foot could be held with absolute precision; and, although he had followed for a considerable time cases of paralysis of the posterior tibial muscles, he could not recall a single one in which calcaneus had developed under proper mechanical treatment.

Dr. PHELPS said, that in cases of flail foot, with absolute paralysis, he was accustomed to do an excision, or a Pirogoff's amputation, which is a safe operation, providing firm anchylosis can be secured. Unfortunately this is not always obtainable in children. When the tendon unites primarily, union takes place by blood-clot, and the result is not cicatricial tissue, but a reproduction of the tendon; and, therefore, stretching cannot take place in the tendon itself, but in the body of the muscle. The same argument has been brought forward against the open operation for club foot, only it has been claimed that the cicatricial tissue contracted; but when healing by blood-clot follows that operation, the cicatricial mass does not contract, nor did he believe it yielded.

From birth up to the third or fourth year, and even later, there is a development of the deformity, and, therefore, in estimating the beneficial results from any special method of treatment, one must wait a similar length of time before passing upon the result.

He had been much interested in Dr. Gibney's cases on account of the candor with which they had been presented, and the care exhibited in securing careful histories; but until the ultimate results could be ascertained, he preferred to cut the anterior tendons when required, and apply a brace similar to the one which had been presented; or a brace with a posterior rubber muscle acting on a lever attached to the sole of the shoe; and in special cases, either Pirogoff's amputation or excision.

Dr. GIBNEY, in closing the discussion, replied seriatim to the questions that had been propounded.

He could not say whether a second operation in one of the cases would be of any benefit.

He had not entirely completed his table of results, and could only say that about one-half of the cases had healed by primary union, and that his analysis, as far as it had gone, failed to show much difference in the results dependent upon the method of healing. He had, of course, always aimed to secure primary union; but some of his best

results had been obtained in cases in which the granulating process had been tedious, and even where some of the tendon had protruded and had sloughed away, or had required removal.

He was sorry that he was unable to furnish records of systematic electrical examinations in these cases; but in the hurry of hospital work, this valuable test had frequently been omitted. He had, however, the report of an examination made by Dr. M. A. Starr before the operation on the little boy, who had attracted attention by his ability to stand on his toe and on the ball of the foot. Dr. Starr reported at that time—two years ago—that the posterior group of muscles showed well-marked reaction of degeneration, and failed to respond at all to the faradic current, and he gave it as his opinion that it was very doubtful if recovery would take place. Dr. Gibney thought that most of the gentlemen present would agree with him in saying that the patient now had considerable power in that posterior group of muscles.

In alluding to electrical treatment, he did not intend to disparage all such treatment, but simply to record his own disappointment with it in connection with confirmed cases of calcaneus. He believed with Dr. Berg, that if certain nerve fibres still remained intact, they could be developed by appropriate treatment. He was also willing to admit that an operation which secured anchylosis or synostosis was capable of giving a very useful foot; but from what he had heard of the operation, there seemed to be good cause for doubting the permanency of the results. Besides this, the operation was a much more formidable one than that which he had described in his paper, and it would often be impossible to secure the consent of the parents to perform it, while they would willingly agree to the other operation.

In regard to the mechanical points raised by Dr. Judson, it must be remembered that in addition to the gastrocnemius muscle, the perineal group and some of the interossei are also involved.

In only one of his cases had he met with the ribbon-like form of the tendon, and the result of this case is reported as "poor." When this condition exists, the tendon must be brought farther down, and particular care exercised in the process of suturing, aiming to have the tendon well embedded in the V-shaped flap.

Dr. PHELPS presented a specimen that was apparently an intracapsular fracture of the femur. It had been removed from a man in the dissecting-room, who was noticed to have the legs flexed and abducted, and twenty or more sinuses, healed and unhealed, about the thigh, which had burrowed in every direction. Through a most unfortunate mistake on the part of those who secured the specimen, the

soft parts were all carefully removed. The pus is stated to have come from a cavity behind the mass of new bone which is seen in the acetabulum; and the new joint is found to be perfect. When the specimen was exhibited a few evenings since before the Surgical Section, it was thought to be a case of old hip-joint disease; but the specimen clearly shows, since sections have been made, that this is not the case, and is of peculiar interest as illustrating the utter impossibility of curing such a case by mechanical treatment. It was a strictly surgical case, and unless the sinuses were followed up and treated by thorough curetting and free drainage with antiseptic precautions, the man must have died, as he did die, from amyloid disease of the liver and kidneys.

Dr. J. D. BRYANT concurred in the opinion that this was a case of intracapsular fracture.

A SIMPLE METHOD OF PREVENTING THE BREAKING OF PLASTER AND WAX CASTS.

Dr. PHELPS exhibited two casts so treated. He said that in order to render plaster or wax casts almost unbreakable, it was only necessary to rub well the surface of the cast with plumbago, and then, by the process of electro-deposition, cover the whole surface with a film of copper about 1 mm. in thickness. To illustrate the efficacy of this method, the speaker took one of the specimens, a large cast illustrating Dupuytren's Contraction, and threw it violently upon the floor, without its sustaining the slightest damage.

The other specimen had already been shown at the meeting in connection with Dr. Townsend's case of club feet.

TRANSACTIONS OF THE BUFFALO OBSTETRICAL SOCIETY.

Reported by WILLIAM C. KRAUSS, M. D., Secretary, Editor of the Transactions.

STATED MEETING, JANUARY 28, 1890.

THE Vice-President, Dr. C. C. FREDERICK, in the chair.

The following-named were elected officers for the ensuing year:

President, Dr. C. C. FREDERICK.

Vice-President, Dr. A. H. BRIGGS.

Secretary and Treasurer, Dr. WM. C. KRAUSS.

Dr. KRAUSS was also elected Editor of the Transactions.

Dr. W. W. POTTER read a paper, entitled,

A LATER STUDY OF PELVIC INFLAMMATIONS.

The object of the paper was to bring forward the expressed views

of the essayist to meet the modern pathological teachings on the subject, and to discuss it in the rays of its latest light.

Due credit was given to Emmet for the great work he had done, but his doctrine of pelvic cellulitis was not accepted as a satisfactory explanation of the phenomena of pelvic inflammations. Bennet's doctrine of cervicitis was referred to as indicating the extreme views of his period, which had now become obsolete. The trend of the present pathology was to consign the so-called pelvic cellulitis to a similar oblivion.

The terms peri- and parametritis were misleading as to pathology, and hence deceptive as to management. The pathology of Bernutz and Goupil, now nearly thirty years old, had not been much improved upon. They recognized that the peritoneum was generally the seat of a sympathetic inflammation that had its origin in the Fallopian tubes, or ovaries, or both. This is what is being admitted to-day by the most competent observers, and it will simplify the whole subject, make it clearer to the student, and result in greater relief to the patient.

Three principal groups of pelvic inflammation were named, as follows:

1. Those of puerperal origin.
2. Those of gonorrheal origin.
3. Those of traumatic origin.

Under the latter were included all infections carried to the endometrium by unclean instruments, tents, or medicinal agents (McMurtry), and those arising from traumatism in any way.

DISCUSSION.

Dr. M. Hartwig.—The original division of the inflammatory conditions of the pelvic cavity into para- and perimetritis and cellulitis was proposed by Virchow. Speaker does not believe now he could speak of parametritis as occurring so frequently, and yet, at the present time, it seems a rather infrequent affection. Thinks that parametritis occurs often after confinement, and results in an abscess on one side. If parametritis exists as the main affection, the surrounding tissue will soon become inflamed, especially the broad ligament.

Dr. Ingraham.—Does not believe that pelvic peritonitis is more frequent than pelvic cellulitis.

Dr. P. W. Van Peyma.—The question as to whether all formations of pus comes from infection from without, is the most important one in the discussion of this subject. Does not believe the older men were mistaken in regard to the frequency of parametritis.

Dr. W. S. Tremaine.—Inflammations are the same everywhere, being modified only by the tissues in which they reside, as in mucous, serous, or cellular tissue. It is important to know whether the inflammation is in or beneath the serous membrane. Has seen many cases of parametritis, and thinks it a frequent and most common occurrence. Has opened abscesses which were due to a cellular infiltration and inflammation. Inflammations occurring in the peritoneum are simular to those in the pleural cavity, and does not believe that all inflammations of the peritoneal cavity are due to a gonorrheal or septic cause. Speaker dissents from the so-called accepted views, that most of the pelvic inflammations are due to gonorrheal infection. Has seen pelvic inflammations in girls under sixteen years of age, and knows that they were free from gonorrhea, although they may have had a sero-purulent discharge. The middle course, between Tait and Emmet, is the safer one to pursue.

Dr. W. C. Krauss.—Inasmuch as the peritoneal cavity resembles the pleural, both being lined with a serous membrane, the inflammatory processes of both must be more or less similar. The peritoneal cavity, being supplied with large amounts of cellular tissue, and the ready manner with which septic germs enter it, render it susceptible to certain forms of inflammation not found in the thorax. Does not believe that all inflammations of the pelvis are due to a septic germ, but that there may be inflammatory processes, with presence of leucocytes not due to micro-organisms. Believes that the gonococci are productive of the majority of the pelvic inflammatory conditions.

Dr. A. H. Briggs.—The general practitioner does not draw lines as closely as the specialist. To the former, the important question lies in the treatment.

Dr. C. C. Frederick believes that there are true cases of parametritis following abortion with septic infection, causing inflammation; these have gone on forming abscesses, and yet no peritonitis was present.

Dr. Potter, closing the discussion, said he had very little to add, inasmuch as there had been no arguments to overthrow the position taken in the paper. Virchow announced his pathology of pelvic cellulitis many years ago, and had not revised it to agree with later investigations. Moreover, Virchow was not a gynecologist, and has not had opportunities to judge of the condition of the organs of the pelvis in the living as revealed by abdominal section. When Dr. Tremaine asserts that he does not believe in the gonorrheal origin of salpingitis, and that it is contrary to his experience, it is

presumed that he has failed to find the gonococcus. This must be accepted in such cases as have been examined microscopically, but not otherwise.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Reported by W. H. BERGTOLD, M. D., Secretary.

Regular monthly meeting held in Room No. 1, Y. M. C. A. Building, West Mohawk street, January 7th, at 8:30 P. M.

The president, Dr. A. A. HUBBELL, in the chair.

Drs. FLAGG and CONGDON were elected to membership.

Dr. CHARLES G. STOCKTON then read on Some Phases of Glycosuria.

DISCUSSION.

Dr. J. W. GROSVENOR.—In regard to the treatment of diabetes, personally he directs his treatment mainly to the nutrition of his patient, and employs the so-called diabetic bread. Those patients who pay the most attention to their digestion seem to do the best.

Dr. HOPKINS was glad to have the essayist present this view of the cause and treatment of glycosuria, for it, in a manner, substantiated what he had testified to in an important "Will Case," not many years ago. In the case in question, the patient had daily consumed large quantities of champagne, carbonated waters, etc. Some of the most eminent foreign physicians prognosticated that he would not live longer than fifteen months; whereas, the man survived that many years.

Dr. COAKLEY spoke approvingly of the hygienic and dietary measures usually adopted to-day. He also thought that exercise was very essential. He asked whether Dr. Stockton could state the amount of the diminution of carbonic oxide in the tissues.

Dr. STOCKTON, in closing, remarked that, in his belief, the so-called "diabetic breads" were useless, and a snare. He did not recall the exact diminution of CO^2 in the tissues.

Dr. H. R. HOPKINS then read a paper, entitled, Treatment of Some of the Local Manifestations of Phthisis. He called attention to the fact that phthisis pulmonalis was curable, as evinced by the scars of healed cavities. Pepper first drew attention to the fact, that a needle, under proper conditions, could be thrust into the living lung with no ill effects. Dr. Hopkins wished to call attention to the method of treating pulmonary cavities by injection. He used creasote, dissolved in almond oil, and employed a subcutaneous injection of cocaine to lessen the pain of the needle-puncture. The results of his personal work were then related. In one case death resulted from

the injection needle penetrating an emphysematous area, and on the withdrawal of the needle pneumothorax followed, causing dyspnea through extensive disease of the other lung, which soon resulted in death. Dr. Hopkins hoped to continue his experiments, and would give a later report when possible.

DISCUSSION.

Dr. TREMAINE failed to see that any of the cases had been benefited. It is a difficult task to locate cavities, and this alone weighs against the treatment. Pure mountain air gives much better results.

Dr. BERGTOLD, having made the autopsy on the case mentioned by Dr. Hopkins, drew attention to certain conditions not mentioned by the essayist. The injection was given by a hospital interne who selected the wrong lung, which, aside from patches of emphysema, was fairly healthy. The diseased lung was practically of no use, and when the pneumothorax supervened the patient fell an easy prey to it.

Dr. STOCKTON mentioned a case (of a woman) where a pneumothorax ensued after inter-pulmonary injection, and where the patient also died. This liability constitutes quite an objection, in his estimation, against this method of treatment. Personally, he does not favor it, but anything which offers even a chance only for the cure of phthisis, ought to be thoroughly and well investigated.

Dr. KRAUSS believed that this method of treatment is of little use, because of the nasty condition of the cavity wall, and was of the opinion that if we could clean the cavities out, we would get better results.

Dr. HOPKINS, in closing, remarked that some one has said that for phthisis, nothing can be given but "Lies and Morphine." We must be patient, and not expect too great results at once. He recalled two cases, particularly, where every one gave an absolutely hopeless prognosis, yet, on the institution of this treatment, a steady improvement, and ultimate recovery were had. How much was due to the injections, he does not claim to estimate.

Dr. M. D. MANN stated that he had made three laparatomies during the day of the meeting, and that two were quite interesting, presenting specimens from these cases. The first was that of a young woman who has suffered very much from dysmenorrhea, and in whose case he diagnosticated an enlarged ovary behind the uterus as the cause of the trouble. On operating, he was able to remove an ovary as diagnosed. It was converted into a dermoid cyst. The second was that of a woman thirty years old, who had been infected with gonorrhea by her husband, during the latter months of pregnancy. On the second day after confinement she had a chill, and other evi-

dances of pelvic inflammation. This continued for four months, when the woman was practically a wreck, had pain all the time, and could be out of bed but a short time each day. Examination showed a great enlargement and tenseness of the pelvic tissues behind, and at the sides of the uterus. Diagnosed pyosalpinx. On operating, he found each tube closed and filled with pus; the ovaries also contained collections of pus. Gonorrheal puerperal fever, in this case, came on very early, and it is all the more interesting, because of so few cases having been reported when the disease appeared so early.

Essayists for the February 4th meeting announced as Dr. W. S. Renner, subject, "Adenoid Vegetations of the Naso-Pharynx, and Dr. M. D. Mann, "One hundred and fifty Cases of Abdominal Section with Reference to Prevention of Complications."

Clinical Reports.

ACUTE BELLADONNA POISONING. — PROFUSE EPISTAXIS. —RECOVERY.

By WILLIAM C. KRAUSS, M. D., Buffalo, N. Y.

On December 15, 1889, I was called to see a patient at Attica, N. Y., who had been ill several days with the mumps. I found the patient to be a woman about 35 years old, strong, robust, with a double parotitis, and temperature of 101° F. I prescribed a light antipyretic, gave the usual advice in such cases, and promised recovery in several days.

On the second day after my visit, a so-styled nurse visited the patient and strongly insisted on her taking belladonna. "Oil of belladonna" was forthwith procured at a neighboring drug store, and, after some manipulation, was administered. After several doses the patient felt her heart beating rapidly, the temples swell, accompanied with strange psychical disturbances, and excessive dryness of the mouth. For a few moments she was in ecstasy, "never felt happier in her life," began to laugh and sing, and tried to leave the bed. Soon afterward her head became exceedingly heavy and dizzy, with painful pulsation at the vertex, perspiration and incoördination followed. An attendant present says her eyes were glassy and had a most peculiar expression, her face was extremely congested, and her delirium seemed to grow continually worse. No physician was summoned. While suddenly turning in bed, her nose began to bleed profusely, *the blood* seeming to leave the nostrils in jets,—something

after the manner of projectile vomiting. After three towels had been saturated with blood the hemorrhage ceased, and the patient felt instantaneous relief from all symptoms, save a dull, heavy headache, which persisted several days.

At the end of the week I had occasion to call, and heard the above description, which I considered to be the symptoms of an acute belladonna poisoning. The epistaxis occurring, as it did, at the acme of the attack, and the instantaneous relief it afforded, might suggest the employment of venesection as an antidotal measure in such cases.

176 FRANKLIN STREET.

Translations.

EXPERIMENTS ON THE PROLIFERATION AND DEVELOPMENT OF LEUCOCYTES.

Conducted by Dr. REINKE, assistant to Prof. Flemming, Kiel, Germany. Abstracts from an inaugural dissertation reported by Dr. Herm. Hadenfeldt, Kiel.

REINKE, assistant to Prof. Flemming, has recently made some interesting observations upon the proliferation and development of the white blood corpuscles in inflammatory conditions. His experiments lead him to the following conclusions: In the first forty-eight hours of the inflammation, mitosis does not take place in the white blood corpuscles. Difficulties attending the examination of the tissues make it impossible to distinguish positively between leucocytes and newly-formed granulation cells, since in the latter mitosis also takes place.

Reinke employed in his experiments small pieces of sponges saturated with gum arabic, and subjected to a high temperature, or better yet, the pith of sunflower stalks, which were made impervious by boiling in a six per cent. saline solution; these then, following all aseptic cautions, were introduced under the skin of animals. In these masses, which act as foreign bodies and excite an inflammation, the leucocytes enter and can be easily examined, after staining with Flemming's solution of safranin. Reinke found, in spite of many preparations which had been exposed three, six, twelve, and twenty-four hours, no mitosis occurring in the many leucocytes.

The assertion, Marchand's, that he had been able to find mitosis in one preparation, Reinke tries to disprove, in that he has also seen

bodies resembling mitosis. They are, however, nothing more than leucocytes which have absorbed microörganisms. These resemble mitosis, but are certainly due to germs, since under aseptic conditions they are not to be found.

To explain the fate of the wandering cells, or leucocytes, in inflammatory tissues, Reinke employed the same methods as before. After twenty-four hours, it was observed that granulation cells were shooting into these foreign bodies, closely resembling leucocytes, and which, in later stages, developed into epitheloid tissue. Now, in order to distinguish the leucocytes from the granulation cells, and to study more closely the former, the sponges were removed after twenty-four hours. Inoculations were then made from one animal to another, until it was certain that only leucocytes were present in the preparations.

Reinke found that, in inoculations up to the sixth day, the character of the cells did not change, while in those cases where the sponges were removed after forty-eight hours after the formation of granulation cells, the appearance was an entirely different one—resembling more or less epitheloid cells.

From these experiments, he infers that the white blood corpuscles either degenerate or are absorbed secondly, that after inflamed tissues have begun to proliferate, wandering cells arise, capable of further development.

These simple and interesting experiments give positive support to the position taken long ago by Virchow, and later by Grawitz. Both authors assert that the so-called pus-cells in inflamed tissues are partly white blood corpuscles, and partly granulation-cells. Both are at first indistinguishable, but later on the former degenerate, while the latter serve to regenerate the tissue through the formation of epitheloid cells.

THE PASTEUR INSTITUTE.

Translated from *L'Abeille Médicale.*

By A. DAGENAIS, M. D., Buffalo, N. Y.

Five months have elapsed since any death has taken place at the institute, the last being Jose Manuel, treated with inoculation, in July, who died on August 21, 1889. Since that period, 850 new cases have been treated; from this number, none have died. As any one can see, this statistic of the hydrophobia, so encouraging in its debut, has been perfected by practice, and the actual results exceed the hopes that were entertained at its origin. There are two main factors for these happy results—first, in general, the patients come under the

treatment sooner than before; second, some modifications have taken place in the location of the inoculations—for instance, the quality of the liquid injected is much larger than before; besides, when the wounds are of a very dangerous character, like bites, repeated and deep, or affecting the face, on the cranium, then the marrows of a virulent strength, as the one of three days' standing, are injected, not only during one day, but during two consecutive days.

Abstracts.

NERVOUS REFLEXES OF NASAL ORIGIN.

In the *Revue de Laryngologie d'Otologie et de Rhinologie* for January, 1890, Dr. Eli Goris, of Brussels, presents his conclusions concerning the nervous reflexes of nasal origin. These conclusions are based upon the study of eleven cases, which are given in full. The reflexes observed were asthma, migraine, neuralgia of various parts of the head, paralysis of the eyelid, and even melancholia with suicidal tendency. The nasal lesions upon which these depended were hypertrophies, adenoid vegetations, and mucous polyps, and occasionally simple dilation of the so-called erectile tissues. Upon removing these lesions, the symptoms, as just given, disappeared. He presents the results of his studies as follows:

1. The same reflex may depend upon nasal lesions of the most diverse histology.

2. These lesions may be found in any part of the cavities of the nose and naso-pharynx.

3. The pathology of the reflex symptoms of nasal origin can be entirely explained by the connection between the trigeminus and the other centers of innervation.

Cod Liver Oil for Children.—Dr. W. F. Waugh, in the *Dietetic Gazette*, gives the following mode of the administration of cod liver oil to children: "I have made it a rule to prescribe cod liver oil for children, mixed with an equal quantity of orange syrup, and with each renewal diminished the proportion of the syrup until it was omitted entirely. I do not now recollect ever to have known a child to refuse this mixture, while they rarely fail to acquire a taste for the oil itself.

Selections.

TREATMENT OF HEMORRHOIDS BY CHRYSAROBINE.

When the hemorrhoids are external:

R—Chrysarobine . . . . . 80 centigr.
Iodoform . . . . . 30 "
Ext. Belladonnæ . . . . . 60 "
Vaselini . . . . . 25 Grammes.
M.

Sig. Externally.—Apply a small quantity to the hemorrhoids several times daily, bathing the parts beforehand with a 1 per cent. solution of phenic acid.

Internal hemorrhoids:

R—Chrysarobine . . . . . 8 centigr.
Iodiform . . . . . 2 "
Ext. Belladonnæ . . . . . 1 "
Cacao Butter . . . . . 2 grammes.
M.

Fiat Suppository.—After three or four days the pains and hemorrhages will disappear, and after two or three months a recovery is made. Kossobudski, in *Semaine Med.*

Case of Persistent Facial Neuralgia of Reflex Dental Origin, due to an Unerupted Cuspid Tooth.—Edward C. Kirk, D. D. S., reports a case in the *University Medical Magazine*, of a lady who had been troubled with a severe and persistent facial neuralgia, from which she had suffered for between three and four years, with but slight periods of intermission. On examination, the upper jaw was found to be edentulous,—the lower teeth back of the cuspids were also missing. Those that remained were in a perfectly healthy condition, and a careful examination of the mouth and jaws elicited nothing abnormal. The idea of an unerupted tooth occurred to the writer, and, on questioning the patient, he received the reply that she was quite positive that she had never had an eye tooth on the left side. On examination with a probe a cavity was found, and on enlarging it, an unerupted cuspid tooth was found in a horizontal position, with the apex of the root in the forward end of the antrum, and the point of the crown imbedded in the symphysis of the superior maxillary bone. The tooth was extracted, after which the persistent neuralgia has abated, and in due time a perfect cure, at least from the dental source, is to be expected.

Prescription for Psoriasis.—The favorite prescription of Mr. Jonathan Hutchinson for psoriasis is:

℞—Acid chrysophanic, ... grains x.
Liq. carbonis deterg. (Wright's), ... m x.
Hydr. amm. chlorid., ... grains x.
Adip. benzoat., ... ℥ j.
Misce, fiat unguent.

At night the patient should wash the diseased surfaces free from all scales; then, standing before a fire, rub on the ointment, devoting, if possible, half an hour to the operation. The proportion of chrysophanic acid is not irritating, and stains the linen but slightly. With some cases, even a weaker chrysophanic ointment is entirely sufficient. Internally, Mr. Hutchinson prescribes arsenic, though he is not convinced that it is an important adjunct.—*Archives of Surgery*, July, 1889.

An Anecdote Concerning Dr. Ricord.—The following anecdote is related of the great specialist Ricord, lately deceased, and is well worthy of repetition as illustrating the character of that remarkable man.

A poor day laborer, suffering from edema of the glottis, as a result of syphilitic ulceration of the larynx, was brought into the amphitheatre. The unfortunate sufferer was without pulse or respiration, and seemed as good as dead. Prof. Ricord quickly opened the trachea by severing three or four of the tracheal rings, and, overcoming the natural repugnance which anyone would feel in a similar case, applied his lips to the opening and sucked the poisonous matter from the trachea until the patient was again able to breath freely.

Dr. Ricord, with his face covered with blood from the wound, did not even think of washing his face, until the patient was out of immediate danger. It is pleasant to record that the man recovered under appropriate treatment.—*Medical Age.*

The Treatment of Syncope.—In the treatment of syncope, the first step is to place the patient in a recumbent position flat on the back, with the head low. The clothing should be loosened around the neck and body, the access of fresh air should be permitted, and to this end persons should be kept at a distance. Diffusible stimulants, as aromatic spirits of ammonia, and brandy or whisky, should be administered; or strong ammonia may be inhaled. Cold water may be dashed in the face, the respiration being thus excited, and in turn the heart caused to beat. If recovery ensues, the heart's beat becomes

more distinct, the pulse reappears at the wrist, and consciousness slowly returns. It is only in cases where the heart is too badly damaged, as where there is fatty metamorphosis of its muscular fasciculi, or its valves are badly diseased, or where too much blood is drawn off, that resuscitation fails to take place.—Dr. Tyson, in the *University Medical Magazine.*

Treatment of dysmenorrhea by hypodermic injections of phenic acid.—The solution recommended by Dr. Chéron, Paris, was as follows:

Phenic Acid	2 grammes.
Aquæ destillat.	100 grammes.

The injections are made in the abdominal parietes—or in the sacro-lumbar region—according to the location of the pain. An injection of five grammes is made at the beginning of the menstrual flow, and may be repeated two or three times daily. The following month injections of ten grammes, daily, are recommended, the week preceding the flow.—*Gazette de Gynécologie.*

Effects of Mental Impression.—A curious case of traumatic hysteria was recently reported by Dr. William C. Thompson. The patient, a man fifty years old, had seen an Italian killed by a shock from an electric wire. Two weeks later he was struck on the head by a cut wire; he at once grasped it in his hand and fell down, only recovering his senses several hours later, after having been taken to the hospital. He was then found to have right hemiplegia and hemianesthesia, and all the symptoms of typical hysteria. The wire that he had struck was a "dead" one; that is, no current was passing through it at the time of the accident; the blow had also been but slight, causing no concussion.—*Boston Journal of Health.*

Insufflation of Salt in the Treatment of Neuralgia.—At a recent meeting of the Edinburgh Medico-Chirurgical Society, Dr. George Leslie gave the details of thirty or forty cases of facial and other neuralgias, cephalalgia, odontalgia, etc., which had been cured, in most instances instantaneously, by insufflation of powdered common salt through the anterior nares. The salt was either "snuffed" or blown up the nostrils. He had been unsuccessful in only two cases; both of these were cases of old standing, which had been treated frequently by morphine injections. In one of them excision of the nerve had been practised.—*Cincinnati Lancet-Clinic.*

The Bacillus of Warts.—Dr. Kunemann has found in sections of warts (*verruca vulgaris*) a bacillus which is always present in the prickle layer. It has distinctive qualities as regards its capacity for color, and is found both between and in the cells. Its form is that of exceedingly delicate slender rods, the thickness bearing the proportion to the length of one to six. It is seldom found in the skin surrounding the warts, but is found most plentiful when the wart is recent.—*Medical Age.*

G. W. Watson, in the *Ohio Journal of Dental Science*, says: "I have very good authority for saying that diseased roots and teeth have a great deal to do in starting tubercular trouble in the lymphatic glands of people predisposed to this disease. Tubercle bacilli, gaining admission to the jaw through the diseased teeth, speedily infect the structures in their neighborhood. It would be right, therefore, for us to look well to the teeth of patients having a tubercular tendency, and see that they keep their mouth in a thoroughly healthy and aseptic condition.

Salicylic Acid in the Treatment of Corns.—Moisten the corn with a solution of salicylic acid, and sprinkle over the surface a layer of pure acid. Cover with a small pad of salicylated cotton and oil silk. This dressing should be renewed every four or five days, until the corn is desiccated, when it is easily removed. One or two weeks' treatment is usually sufficient.—*Revue Générale de Clinique et de Thérapeutique.*

For a case of phthisis at the clinic, Prof. Da Costa directed ol. morrhuæ f℥iv t. d.; inhalations of terebene ℥j to Oj boiling water, and the following prescription:

℞—Liquor. potassii arsenitis . . . . . m. iij.
Tinct. nucis vomicæ . . . . . gtt. v.
Tinct. cinchonæ comp . . . . . f℥ j.
M. Sig—*ter die.* —*Canada Med. Record.*

GONORRHEA.

The number of different injections for this trouble is legion, but Garretson says he has always found this one satisfactory:

℞—Chloral hydrat.
Zinci sulphatis . . . . . aa gr. ij.
Aquæ . . . . . ℥ j.
M. —*Med. Summary.*

Vaccination on the Leg.—A French practitioner, in the course of a large number of revaccinations, was struck with the fact that the operation was far more successful when performed on the leg than

when the arm was selected. Among 177 cases, the percentage of failures was 45.45 on the leg, as compared with 53.84 on the arm.—*Med. Press and Circular.*

TREATMENT OF PRURITUS ANAL AND VULVÆ.

R—Hyposulphite of soda 15.0
Acid carbonic 2.5
Glycerini 8.0
Aquæ 120.0
M—Sig—Lotio.—*Dublin Journal Med. Sciences.*

CORYZA SNUFF.

R—Morphiæ muriat . . . . . gr. ii.
Bismuth. subnitr . . . . . zi.
Pulv. accaciæ . . . . . zii.
M. Fiat pulv.

(*Canada Med. Record.*)

TO ARREST VOMITING DURING PREGNANCY.

R—Cerii oxalat.
Ipecacuanhæ . . . . . āā gr. j.
Creasoti . . . . . gtt. ij.
M. Sig—To be taken every hour.—*Med. Summary.*

COUGH MIXTURE.

Cod liver oil . . . . . ℥ ij.
Honey . . . . . ℥ ij.
Lemon juice . . . . . ℥ ij.
One to two teaspoonfuls three times a day.—*Med. Summary.*

It is a common occurrence for children to get beans, grains of corn, and other foreign substances up their nose. This simple remedy is worth remembering: Get the child to open its mouth, apply your mouth over it, and blow hard. The offending substance will be expelled from its mouth.—*Medical Classics.*

Poisonous Thread.—The *Sanitary News* draws attention to the fact that silk thread is soaked in acetate of lead to increase its weight, and persons who pass it through the mouth in threading needles, and then bite off the thread with the teeth, have suffered from lead poisoning.

Flint says: "I have never known a dyspeptic to recover vigorous health who undertook to live after a strictly regulated diet, and I have never known an instance of a healthy person living according to a strict dietetic system who did not become a dyspeptic."

The French method of administering castor oil to children, is to pour the oil into a pan over a moderate fire, break an egg into it, and stir it up; when it is done, flavor with a little salt or sugar or currant jelly.

PROF. BARTHOLOW recommends for habitual constipation a few minims of wine of tobacco, taken at bedtime. It acts by increasing the secretion and causing peristaltic action.—*College and Clinical Record.*

FOR ingrowing toe nails, use equal parts of mutton tallow, castile soap, and white sugar, made into a salve. Apply until the swelling is down, then trim the nail in the center.

TO RENDER MILK MORE DIGESTIBLE.—When milk agrees badly with patients, it is said that shaking it thoroughly, just as lemonade is shaken, will render it more digestible.—*Ex.*

M. GALLE has observed in persons who use the telephone much, symptoms of "aural over-pressure," caused by the condition of almost constant strain of the auditory apparatus.

NOTHING so quickly restores tone to exhausted nerves and strength to a weary body, as a bath containing an ounce of aqua ammonia to each pail of water.—*Annals of Hygiene.*

FOR BED SORES, Prof. Rosenbach recommends that lanoline be rubbed into a red spot denoting an impending bed sore. He has had unvarying success with it.—*Ex.*

EVERY one should have eight hours' sleep, and pale, thin, nervous persons require ten, which should be taken regularly, in a well ventilated room.

"DOCTOR, if a plain young man, named Blinker, calls on you to-day for a prescription, don't let him have it."

"Why not?"

"He wants something to restore his appetite, and he boards at my house."

"AND, DOCTOR, can you make this bloom again?" asked Father Time, pointing to a specimen of the vintage of 1840. "I was once a footlight favorite, and men showered me with pearls and diamonds. O, can I be young again?" she exclaimed with the fervor of a maiden of sixty-two summers. "You will be Queen of the May," responded Dr. Brown-Sêquard, as he proceeded to his laboratory and slaughtered a fresh Guinea-pig.

BUFFALO MEDICAL AND SURGICAL JOURNAL

A MONTHLY REVIEW OF MEDICINE AND SURGERY.

EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

THE Eighty-fourth Annual meeting of this ancient and honorable medical organization, held in Albany, Tuesday, Wednesday and Thursday, February 4, 5, and 6, 1890, was well attended, and the work accomplished was in every way praiseworthy.

The Committee on Revision of the By-Laws, through its Chairman, Dr. Henry Flood, of Elmira, presented a report that was adopted, with the exception of the clause relating to the Nominating Committee. We think this Committee of Revision, and especially its Chairman, is entitled to the thanks of the Society for the able and judicious manner in which it has performed a laborious and time-consuming duty. It was a work that must be done, and it is difficult to see how it could have been done better. It necessarily took time to act upon this report, which must be done in open session, and we fail to see how any fair criticism can be offered upon the fact that this and other executive business consumed two hours on the morning of the first day. If the genial editor of the *Medical Record* would attend the meetings and take active part in the business thereof, perhaps he might find less occasion to criticise those who are obliged to "manage the Society." He is a member of an important committee, and has been for several years, but we have failed to observe his attendance upon the sessions for some time past.

The scientific papers read at this meeting were of a high order of merit, and the discussions were able and instructive. To President Lewis, and his able lieutenants of the Business Committee, all praise must be accorded for such substantial results. To arrange in systematic order, and bring forward in tangible shape for consideration, such a vast amount of material as is yearly offered and disposed of in this Society, is no slight task; and when the work is well done, it is becoming that a word of approbation for those who perform the laborious and gratuitous service should be given.

The Society reaffirmed its interest, maintained these many years, in the proposed State Board of Medical Examiners. "The propriety of separating the teaching and licensing bodies for the practice of medicine, has gone past the stage of argument—it is an admitted necessity. The only question that remains is as to the method of accomplishing this important reform. This Society is of the opinion that Senate bill 115, introduced by Senator Stadler, and now pending, is well calculated to do equal and exact justice to all interests involved. A committee of fifteen was appointed to appear before the Senate Committee on Public Health, and urge the passage of this bill. A hearing has already been accorded the Committee, the arguments have been presented, and we await the result, not doubting that the Legislature of the State of New York will show its readiness to take such action, as will array the Empire State well in the front rank with her sister commonwealths that have already placed similar laws upon their statute books. To doubt this would be to challenge the intelligence and progressiveness of the men who have in custody all that is dear to the citizens, whose servants they are.

The banquet held at the Delavan House on the second night of the meeting was of more than ordinary interest. The speeches were unusually witty and entertaining, the presence of the Hon. St. Clair McKelway, of Brooklyn, a familiar face to the old banqueters, adding not a little to the enjoyment of the evening. But the climax of the feast was reached when Drs. Jacobi and Roosa made their stirring appeals in behalf of the Medical Examiners' bill. Inspired in part, no doubt, by the presence of Senator Fassett, whose wit and eloquence had already charmed the company beyond measure, and by that of other members of the Legislature who graced the occasion, Dr. St. John Roosa fairly carried the assemblage to its feet in round after round of applause with the lofty outburst of fervid eloquence of his peroration, in which he set forth the importance of the measure in question, and its bearings upon the future welfare and prosperity of the people. It was a scene not to be described in words, and never to be forgotten by those who were so fortunate as to witness it.

The officers elected for the ensuing year were: *President*, Dr. William Warren Potter, of Buffalo; *Vice-President*, Dr. Lewis S. Pilcher, of Brooklyn; *Secretary*, Dr. Frederick C. Curtis, of Albany; *Treasurer*, Dr. Charles H. Porter, of Albany. The usual standing committees were filled for the most part by electing the former incumbents; a large number of delegates to other societies were appointed, and a number of honorary members were chosen.

REPORT OF THE STEVENS COMMISSION.

Ever since Dr. Stevens presented his views on the relation of ocular disturbances to functional nervous diseases, especially to chorea and epilepsy, the profession has waited and hoped for their verification.

We doubt if there is any more obstinate disease of pure nervous origin, or one which more frequently baffles us, than does epilepsy. No more important claim has been made in neurological medicine than that of Dr. Stevens, when he said:

> Of sixty-four consecutive cases of well-marked epilepsy in private practice, of which, in every instance, the disease had been of more than one, and in most of many years' duration, and in all of which the treatment has been directed to ocular conditions, medicines having been, except in a single instance, discontinued, thirty-two have remained free from attacks for a time, varying from several months to several years,—a time which, in all ordinary conditions, would enable us to regard the cases cured.

Twenty-one cases were much relieved, and in eleven cases there was no improvement. Here was a report of fifty per cent. of cases of epilepsy cured. What a prospect for hopeless cases! Considering the claim made, it was right that the New York Neurological Society should appoint a committee to inquire into the subject.

The committee was composed of Drs. Seguin, Birdsall, Webster, Moore, Foster, Dana, and Starr. There could hardly have been selected seven men more peculiarly fitted to investigate such a subject. After thirty months of investigation, during which time twenty-eight cases were sent to Dr. Stevens, the committee presents its report. Within the first four months, fourteen cases were, for different reasons, withdrawn, thus leaving fourteen cases available for conclusions. Of these fourteen, five were chorea; of these, three were improved, two were unimproved; of the nine cases of epilepsy, two were improved, six were unimproved; one result, unknown; no cures out of the fourteen. We must confess that this report is a disappointment, as we had hoped for a better result. But the investigation seems to us to have been fairly conducted by able men, and we do not feel like going behind the returns.

The committee concludes the report by saying:

> In view of these facts, your committee cannot but express the opinion that so far as this investigation has warranted a conclusion, the method of Dr. Stevens does not afford a sufficient degree of relief to patients suffering from chorea and epilepsy, to warrant its adoption or recommendation to the members of the Neurological Society, as a means of cure or as a sole therapeutic measure.

This report naturally does not satisfy Dr. Stevens, and in his reply he complains of bias and unfairness, and adduces the statement of other physicians to show that the result of cases was more favorable

than the commission would acknowledge. We must remember, however, that these other observers were not of the commission, and have not watched the cases in every detail, and that Dr. Ranney, at any rate, is already committed as a firm believer in this theory and practice. While we regret that this procedure does not do all that was claimed for it, we are confident that a limited number of cases will be found to depend on these ocular defects.

The entire subject, including correspondence, report and reply, is contained in the November number of *The Journal of Mental and Nervous Diseases*, and constitutes a valuable addition to medical literature.

RAPID TRANSIT FOR PHYSICIANS.

The feeling against the use of the bicycle by physicians in their practice is rapidly passing away, and we are confident that it will cease entirely as soon as its advantages are clearly appreciated. In speaking of the bicycle in this connection, we, of course, refer to the pattern known as the rear driver, or "Safety." The high wheel, for obvious reasons, is not practical. Aside from the questions of health and pleasure—no small items of consideration to the busy physician—the one great advantage of the Safety bicycle is that it gives a means of rapid transit; it economizes time. In a city like Buffalo, with its many miles of smooth pavements, this applies especially, but even over the rough pavements it can be ridden rapidly after a little experience. Other points in favor of the wheel are, that it is easily mastered; it is inexpensive, after the first cost its maintenance being very little; it is always ready, an important point, particularly at night. Did patients appreciate how much more rapidly the doctor could come to their aid in cases of sudden illness, they would have no further prejudice against the bicycle. It can be used at all seasons of the year with some little thought to the subject of dress, and in all kinds of weather, excepting, perhaps, on very rainy days. One more point may be mentioned. The bicycle is less tiresome than any form of transit with the horse for the motive power. From actual experience, we can say that we were less weary and more able to attend to what was at hand after riding fifty miles on a bicycle, than after going the same distance in a buggy.

We desire to call attention to one of our advertising pages referring to the Columbia Bicycles. The "Safety" of this name is well adapted to a doctor's needs. They are made by the well-known Pope Manufacturing Company, the pioneer in the construction of wheels in

this country. Their workmanship is of the highest order; their guarantee unquestioned. Those contemplating purchasing a bicycle would do well to examine the Columbias before buying. Their agent in this city is Mr. J. H. Isham, No. 301 Main street.

Obituary.

Dr. Phineas H. Strong, one of the most respected physicians of Buffalo, died at his home, in this city, on Monday, February 10, 1890, aged seventy-two years. Dr. Strong was a native of Vermont, but came to Buffalo in 1846, where he has since resided, and during these forty-four years has taken an active part in the medical affairs of this region. He has held nearly all the offices in the public medical service and in medical societies here, and was in earlier years a frequent contributor to the columns of the Journal. He was appointed Professor of Medicine in Howard University, at Washington, D. C., soon after its organization, which chair he held for three years.

Dr. Strong was the embodiment of all that is graceful, courtly, and sympathetic in professional walks, and died respected by his fellow-citizens as well as his confrères.

At a special meeting of the Medical Society of Erie County, held Tuesday evening, February 11, 1890, the president, Dr. G. W. McPherson, appointed the following named gentlemen a committee to prepare a memorial of the late Dr. Strong, viz.: Drs. F. W. Bartlett, A. A. Hubbell, and John Hauenstein. They subsequently reported as follows:

Resolved, That in the death of the late P. H. Strong, the Medical Society of Erie County has lost one of its oldest, most devoted, and honorable members, one who exemplified in his professional and social life the highest qualities of a man and physician.

Resolved, That by his steadfast devotion to the advancement and education of the Society, he deserves the highest encomiums we can pay to his memory.

Resolved, That as a further tribute to his work and memory we will attend his funeral in a body.

Remarks upon the life and character of Dr. Strong were made by Drs. Howe, Hayd, Samo, W. W. Potter, and others, after which the memorial was adopted by a rising vote.

The funeral was held Thursday afternoon, February 13th, at the North Presbyterian Church, and was largely attended. The pall-bearers were Dr. George N. Burwell, Dr. Thos. Lothrop, Dr. James B. Samo, Dr. S. S. Green, Mr. Pascal P. Pratt, and Mr. John Otto.

The carriers appointed by the Society, at the request of the family, were: Drs. Wm. H. Thornton, DeLancey Rochester, E. H. Norton, Herman Hayd, James S. Porter, and W. H. Bergtold.

Dr. Charles S. Wood, of New York, died at his home, February 1, 1890. Dr. Wood was a conspicuous character in the medical circles of the period. He was a prominent surgeon in the war of the rebellion, the writer having served with him in the army of the Potomac where his best services was performed, and personally knew of his skill and value. After the war, Dr. Wood resumed civil practice in New York, was elected president of the Medico-legal Society, and subsequently served as president of several local medical societies. He was a clear thinker, a plain, straightforward, common-sense man, and a true and able physician. 'Tis sad to part with such men.

Personal.

Joe. Elmer Widner, of this city, was graduated in medicine on February 10, 1890, by Niagara University. He passed the regular examinations with credit at the close of last Winter's session, but could not be graduated with his class, because he was not twenty-one years old. Having attained his majority, the degree of Doctor of Medicine has been duly conferred, and we congratulate our young friend.

C. S. Ayres, A. M., M. D., the well-known oculist of Cincinnati, has been elected president of the Cincinnati Polyclinic Graduate School of Medicine. This institution could have no better assurance of success than calling such an able and widely known man to the presidency.

Dr. C. M. Daniels, who has been in Europe for the past six months, has returned, and will devote himself to the practice of surgery and gynecology.

Dr. Floyd S. Crego, of 280 Franklin street, is spending a few months in the Capitals of Europe, and is expected to return in May.

Dr. L. S. McMurtry has removed from Danville to Louisville, Ky. His office is at 652 Fourth avenue. Hours, 9—12.

Dr. G. W. York has removed to 190 Franklin street, Buffalo.

Society Meetings.

THE NORTH OF ENGLAND OBSTETRICAL AND GYNECOLOGICAL SOCIETY.

THE adjourned meeting to complete the arrangements for the foundation of this Society was held at the Queen's Hotel, Manchester, on January 17th. Dr. Wallace, Liverpool, occupied the chair. After adopting the constitution and rules prepared by a provisional committee, the meeting proceeded to elect office-bearers for the first year. Dr. Wallace was elected President, and Dr. Lloyd Roberts, Manchester, Dr. McGowan, Oldham, Dr. Burton and Mr. William Alexander, Liverpool, Dr. Braithwaite and Mr. C. J. Wright, Leeds, Vice-Presidents. Dr. Wm. Walter, Manchester, was appointed Treasurer. Dr. Sinclair, Manchester, General Secretary, and Dr. Donald, Dr. H. Briggs, and Mr. Sydney Rumboll, Local Secretaries for Manchester, Liverpool, and Leeds respectively. In addition to these, a council of twenty-four members was formed, comprising eight representatives of each center, viz. :—For Manchester, Dr. Samuel Buckley, Dr. John Scott, Dr. Wm. Lauder, and Dr. Nesfield, Mr. J. H. Martin, Blackburn, Dr. Milne, Accrington, Dr. Robertson, Oldham, and Dr. Starkey Smith, Warrington; for Liverpool: Drs. J. Armstrong, T. B. Grimsdale, and William McFie-Campbell, Liverpool, T. S. Floyd and Hugh Miller, Birkenhead, Dr. Moore, Preston, Dr. Barron, Southport, and Dr. Alexander Hamilton, Chester; for Leeds: Mr. Mayo Robson, Dr. Hellier, and Mr. Edmund Robinson, Leeds, Dr. Hime, Bradford, Dr. Johnstone, Ilkley, Dr. Arthur Jackson, Sheffield, and Mr. J. F. Horne, Barnsley.

It was announced that the first meeting would be held at Manchester on the third Friday in February, when Dr. Wallace would read a paper on The Etiology, Prognosis, and Treatment of Localised Peritonitis.—*Medical Chronicle.*

THE FORTY-FIRST ANNUAL MEETING of the American Medical Association will be held in the City of Nashville, commencing Tuesday, May 20th, and continuing until Friday, the 23d. In connection with the meeting of the Association, there will be held the usual exposition of pharmaceutic, surgical, and sanitary products and appliances. This exposition is expected to be one of the largest and most interesting exhibits of the kind ever held. Pharmacists and others intending to exhibit their manufactures, etc., should address Dr. J. Berrien Lindsley, Chairman of the Sub-Committee on Exhibits, Nashville, Tenn. The building selected for the exhibition is Amusement Hall, Broad street, near Spruce, and contains 7,000 square feet of floor space, exclusive of the aisles, and about 5,000 square feet of wall space.—*Memphis Medical Monthly.*

Book Reviews.

Through the Ivory Gate. Studies in Psychology and History, by W. W. IRELAND, M. D., Edin., formerly of H. M. Indian Army; corresponding member of the Psychiatric Society of St. Petersburg, and of the New York Medico-Legal Society; author of "The Blot on the Brain." 8vo, pp. New York: G. P. Putnam's Sons. Edinburgh: Bell & Bradfute. 1889.

In his short preface, the author says:

This book is written in prosecution of the views stated in "The Blot on the Brain." The historical and psychological studies may be considered as a continuation of the papers in that book on Mohammed, Joan of Arc, Mohammed Toghlak, and others. All the characters described in the present work, in my opinion, suffered from mental derangement. They were led away by delusions of uncontrollable passions from the right comprehension of things, or the right line of conduct. In figurative language, they were visited by spectres which passed through the Ivory Gate.

Quoting from Pope's translation of the Odyssey, he says:

> Immured within the silent bower of sleep,
> Two portals firm the various phantoms keep;
> Of ivory one; whence flit to mock the brain,
> Of winged lies a light fantastic train:
> The gate opposed pellucid valves adorn,
> And columns fair incased with polished horn,
> Where images of truth for passage wait,
> With visions manifest of future fate.

Thus the aim of the work is tersely and even practically stated at the very threshold, and the reader, wholly relieved from doubt as to its intellectual purpose, can follow him with the full enjoyment a well-written book of absorbing interest may yield him. The only thing left for the critic is the inquiry: Have the facts and premises on which his conclusions were based been stated with fairness and without undue prejudice, and do his deductions follow with sufficient probability in the light of the physiological science of the day? To the first clause of this question the unprejudiced reader must give his unqualified assent; the answer to the latter must necessarily depend in a great degree upon the quality of his mind, his preconceived ideas, and his will or ability to divest himself of them in the interest of science.

The first, and most important study, is the life, character, and mental state of Swedenborg. He shows him to have been, at least in the earlier years of his life, all that his intelligent admirers claim, but that he inherited a neurotic temperament which late in life developed into a real mental derangement. He says:

We have seen that after a period of great nervous excitement at the Hague,

Swedenborg had in London, in 1744, an acute attack of insanity, (*paranoia acuta hallucinatoria?*) This calmed down in a few months, and gradually the will and intellect resumed their power, though not to struggle against the delusions that had taken hold on his mind, but finding meaning in them to systematise them and to propagate them. * * * He remained the rest of his life in a state of delusional insanity, or paranoia.

From the grouping of apparently well authenticated facts in the history of this remarkable man, it is difficult, if not impossible, for the student of nervous maladies to arrive at any other explanation of his theological writings than that they were the offsprings of a highly cultivated mind, naturally independent in thought, self-sufficient and fearless in expression, and with a tendency to systematisation mingled with vagaries proceeding from a "heat-oppressed brain." Swedenborg's spirits probably never told him a valuable truth that was not preëxisting in his own mind the result of previous sane and philosophical reflections. All the rest of his strange spiritual experience can easily be attributed to delusions.

The concluding remarks of the author are pertinent, as they serve to show the fair animus of his article. He says:

It is sad to think that it should have been the lot of so earnest a seeker after truth to wander so many years in the mazes of delusion; but the records of mental derangement contain some of the saddest things in fate. Swedenborg's moral and theological writings contain much that is noble and true, though marred by whimsical notions and erroneous statements. Nevertheless, many of the sayings committed to writing will find acceptance with thoughtful men, bearing their own evidence in their fitness to other things in the plan of the world.

William Blake is the next of the author's subjects, and though different in many respects from the Swedish Seer, his acts and notions are referred to the same category of mental diseases and as appears with justice.

A long and exhaustive study of the mental state of Giteau follows.

Probably no calm and unbiased specialist in nervous disease, with all the facts before him of the mental history of Giteau before the murder, his conduct afterwards during the protracted trial, and his extraordinary behavior at the execution, would be willing to pronounce him a sane man. At the same time, a candid review of the subject must lead to the conclusion that there was sufficient "method in his madness" to make him responsible for his act in the eye of the law. The author leans in this direction, though in some of his conclusions he differs from both Hammond and Gray, believing that, though under an abnormal condition of mind (paranoia?), the *intensity* of his delusion was not so strong as to have compelled his wicked act. He says:

Men like Giteau, at once wicked and wrong-headed, are not so very rare, and they need an example. * * * * Like many who come into the grasp of the law, he was the victim of hereditary tendencies and a bad education. A well-directed and watchful training would likely have turned the bias in a better direction. For the dismal result Giteau himself was not without blame. He yielded to temptation till he lost the reins of his own passions and caprices.

The whole of this interesting subject is ably handled, and will repay careful perusal by the general reader, as well as by the medical student.

Thirty-six pages are next devoted to the case of Riel, the Canadian rebel; it is an exceedingly interesting study. His was a very checkered career. He tries to prevent the absorption of Manitoba into the Dominion by force; is afterwards sent to Parliament, next into an insane asylum; has religious delusions, claims inspiration, heads a rebellion, fights a battle, is made prisoner, tried and executed. The plea of insanity was urged at his trial, and with apparent reason, but without avail, though many, our author included, hold that the ends of justice might have been equally served with a milder punishment.

Among recent trans-Atlantic lunatics are selected for study Louis II. of Bavaria; the Italian Jesuit Gabriel Malgrida; Theodore, King of Abyssinea, and others, all of which exhibit to a greater or less degree their aberration from the normal mental condition of Man.

In concluding this notice, the idea is forced upon the mind that the boundary line between our "IVORY GATE" and that with "valves pellucid," is somewhat indistinct. May not the blot on the brain be more common than we think?

A Hand-book of Pathological Anatomy and Histology. By FRANCIS DELAFIELD, M. D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York, and T. Mitchell Prudden, M. D., Director of the Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York. Third edition, illustrated by 224 wood engravings, printed in black and colors. New York: William Wood & Co. 1889.

The objects which the authors have kept in view in preparing this third edition, are similar to those preceding. No better criterion is necessary to attest the favor which this work on pathology has received, than the fact that in a short space of time two large editions have been exhausted.

It is a work intended for the student and practitioner, being comprehensive for the former, and not too elementary for the latter.

It takes up the various procedures in pathology, as no other text-book does—fulfilling, therefore, a need heretofore left wanting.

Part I. is devoted to the method of making post-mortem examina-

tions, giving in brief the points to be noted in external inspection, and the manner in opening and removing the internal organs. These authors follow the same rules laid down by Virchow in his manual on post-mortem examinations, but supplement them somewhat by the methods in vogue, to harden the different organs and to prepare them for microscopical examination.

The chapter on the examination of the bodies of new-born children is one that is worthy of consideration, especially from a medico-legal standpoint. Taylor's conclusions regarding the hydrostatic test of the lungs are appended, and show that too much care cannot be exercised by the physician confronted by such a case.

The chapter on general methods of presenting pathological specimens, and preparing them for study, will be of great service to laboratory students. The number of staining methods are, however, too limited, the carmine stains being entirely lost sight of.

Part II. takes up the changes in the circulation and composition of the blood, the degenerations, animal parasites and bacteria, inflammation and tumors. These subjects are all ably discussed though, perhaps, some of them are considered somewhat briefly. The classification of the infiltrations and degenerations differ slightly from other authors, a field in which differences of opinion still exists regarding these two allied processes.

The chapter on tumors is carefully and ably presented, the numerous excellent engravings helping to render this chapter, though irksome, interesting.

Part III. is devoted to the study of the morbid anatomy of the organs. In order are taken up: Diseases of the nervous system, respiratory system, vascular system, diseases of the abdominal organs, bones, joints, and muscles.

Part IV. treats of the lesions found in the general diseases, in poisoning, and in violent deaths. This, the concluding chapter, is of especial importance in its relation to legal questions. Too little stress is laid upon the conditions found in sudden deaths, as taught by many of our schools, and yet, in many cases, the physician has no more important decision to render than that of accidental or violent death. The introduction of this chapter is certainly a step towards educating medical men in one of the most important branches of medicine.

The work, on the whole, is to be highly commended. The high standing that the authors have taken in pathology in this country, insure for their work a confidence which few enjoy. The illustrations are all original, drawn by the authors themselves, and in accuracy and excellence can scarcely be surpassed.

The typography is all that is to be desired; paper, print, and binding are of the best. The publishers do not believe in the pernicious habit of having several antiquated catalogues bound in the body of the book. Those who have frequent recourse to the indexes will appreciate this happy omission. W. C. K.

The National Medical Dictionary. Including English, French, German, Italian and Latin Technical Terms used in Medicine and the Collateral Sciences, and a Series of Tables of Useful Data. By JOHN S. BILLINGS, A. M., M. D., LL. D., Edin. and Harv., D. C. L., Oxon. With colaboration of W. O. Atwater, M. D., Frank Baker, M. D., S. M. Burnett, M. D., W. T. Councilman, M. D., James M. Flint, M. D., J. A. Kidder, M. D., William Lee, M. D., R. Lorini, M. D., Washington Matthews, M. D., C. S. Minot, M. D., and H. C. Yarrow, M. D. In two volumes. Vol. I., A to J. Vol. II., K to Z. Philadelphia: Lea Brothers & Co. 1890.

To review a dictionary, in the ordinary sense of the term, is not only unnecessary, but it is next to impossible. Nevertheless, such a work as that before us deserves to be "noticed" in the fullest application of the word.

For many years the literature of medicine has suffered in the department of lexicography. Dunglison's Dictionary, so long the standard, has not been able to meet the demands of the rapid-growing nomenclature, and is fast becoming a "back number." Foster is engaged in preparing a comprehensive work that will meet the demands of the period, but, unfortunately, only one volume has yet been put forth, and the remaining ones are painfully slow in appearing. Hence, it is with pleasure we greet this work of Billings that comes forth so opportunely, with its 84,844 words and phrases, including 25,496 from the Latin, 9,158 from the French, 16,708 from the German, and 6,514 from the Italian, besides synonyms from the three latter languages, given only in connection with the English or Latin primes.

Then there are prefixed to the first volume a series of tables convenient and useful for reference. These include a table of doses; of antidotes; of the inch and metre system of measuring spectacles; of thermometric scales; of the dimensions of the fetus at different ages; of the average dimensions of the parts and organs of the adult human body, and weights of the organs; percentage of nutritive ingredients in various foods; and a table of life expectations as derived from the records of American life insurance companies.

But it is as an authority on words and terms used in medicine that the work is to be especially commended. Here it will be found invaluable, and must supplant every other authority extant, excepting Foster's, though it cannot be considered as in competition with him. It

would appear from such examination of this dictionary as we have been able to make, that it must become an indispensable part of a physician's library; while dentists, anthropologists, teachers, sanitarians, and all interested in the study of the collateral sciences, cannot well afford to deny themselves the convenience of its possession. The two quarto volumes contain pp. xliv.—1,530, double columned, printed on No. 1 book paper, in plain type, and are most perfect specimens of the book-makers' art.

The author, who is concededly the greatest living medical bibliographer, in the creation of this work takes rank as one of the greatest lexicographers of the day. These two special fields in which he has conspicuously distinguished himself, complement each other in a most gratifying and happy manner, and the name of Billings must henceforth and forever adorn the historical pages of American medicine. It is, and ought to be, the pride of the medical staff of the United States Army, that it can contribute such an ornament to the guild.

Text-Book of Medical Chemistry. For Medical and Pharmaceutical Students and Practitioners. By ELIAS H. BARTLEY, B. S., M. D., Professor of Chemistry and Toxicology, and Lecturer on Diseases of Children in Long Island College Hospital; late Chief Chemist to the Department of Health, City of Brooklyn, etc., etc. Second edition with illustrations; pp. 423. Philadelphia: P. Blakiston, Son & Co. 1890.

Medical chemistry should be a study of chemistry in its relation to normal and morbid performance of the functions of each individual organ of the body, and the relation of each organ to the entire animal economy. This subject, which is of so much importance to the physician, should be taught, not from the standpoint of the pure science, but from the vantage ground of *physiology* and *pathology*. It is greatly to be regretted that so many lecturers on the subject persist in making it merely a review of the principles of elementary chemistry, to which is added tables showing the composition of the fluids of the body and a little urinalysis. Far more advantageous would it be to the student and practitioner if it were made—

I. A consideration of chemistry in its relation to the performance of the normal functions of all the organs of the body.

II. A consideration of chemistry in its relation to any morbid declensions from the normal performance of those functions peculiar to the various organs of the existing animal.

The author carries out the old and too frequent method in the book before us. As a *Text-book* of MEDICAL CHEMISTRY, the only criticism we have to offer is, that the work is not what it is claimed to be. While this criticism may appear harsh, it is nevertheless true, for the

work does not treat of the chemistry of the human body in health and disease.

In this text-book of elementary chemistry, although written in a clear and concise style, the author neglects to lead his reader, gradually, up to the important laws which form the basis upon which the science of chemistry rests.

In the study of a new science, the best interests of the student demand that he be not at once plunged into a mass of facts and a host of laws, but that he be gradually led up by means of existing analogies to the facts to be explained, and eventually to the laws of the science.

The almost immediate use of such terms as "negative radicals," etc., is extremely confusing to the student, to say the least.

That portion of the work devoted to ORGANIC CHEMISTRY, while abreast of the times, is somewhat rambling in character. The author fails to bring out the beautiful symmetry and systematic arrangement which is characteristic of this branch of the science, while the neglect to show existing analogies renders the subject an extremely difficult one for the student to grasp.

Organic chemistry, although the easiest branch of the science, is ordinarily considered the most difficult, because the subject is not presented in a logical and systematic manner.

From what has thus far been said, it must not be considered that this book is entirely destitute of good points. On the contrary, it contains much to be commended.

The explanation of the terms "Volt," "Ohm," and "Ampère," are clear and concise, and no one need confuse them after what the author has to say.

The introduction of the physiological action of the various elements upon the human system is an excellent thing in a work intended for the use of medical students and practitioners.

The classification of the elements according to the *periodic law*, is at best a difficult one, and frequently very unsatisfactory when this classification is used in the lecture-room. Prof. Bartley is to be congratulated upon the success of his arrangement according to the periodic law.

J. A. MILLER.

Wood's Medical and Surgical Monographs. Vol. IV. No. 3. December, 1889. Published monthly. $10.00 a year. Single copies, $1.00. New York: William Wood & Co., 56 and 58 Lafayette place.

This is the final number of this interesting and valuable series of publications for the year 1889. We are gratified to learn that the pub-

lishers will continue the regular monthly issuance of similar books during 1890.

The present number contains the following titles: A Practical Treatise on Baldness, by George T. Jackson, M. D.; The Sphere, Rights, and Obligations of Medical Experts, by James J. O'Dea, M. D.; The Pathology and Treatment of Scarlet Fever, by Dr. H. Von Ziemssen; Pathology and Treatment of Ringworm, by George Thin, M. D.; Notes on Dental Surgery, by J. Smith, M. D., L. L. D.; On Sounding for Gall-Stones, and the Extrusion of Gall-Stones by External Manipulation, by Dr. J. Harley, F. R. S.

The Monographs of Drs. Thin and Harley are illustrated with numerous wood-cuts. The title of Dr. Ziemssen's paper was omitted from the cover page, but it is one of the best in this number. A complete index of Vol. IV. accompanies No. 3, which is a book full of interest.

A Treatise on Materia Medica, Pharmacology, and Therapeutics. By JOHN V. SHOEMAKER, A. M., M. D., and JOHN AULDE, M. D., Philadelphia and London. F. A. Davis, Publisher. 1889. In two volumes. Vol. I., 353 pages, with sixty-six blank pages for notes. Price, cloth, $2.50; sheep, $3.25.

A new work on therapeutics must cut loose from the traditional heresies that have been handed down from time immemorial, but it should not condemn as absolute, empirical methods which have shown their value in times gone by; on the contrary, we should strive to learn the secret of the successful application of remedies that baffled the generation of physicians before us.

Such a determination on the part of the authors in the preface of their work, naturally causes the reader to expect something out of the ordinary run of text-books. Perhaps, in no branch of medicine can there be as much originality shown in treating and discussing a subject as in materia medica and therapeutics. A new text-book on therapeutics, in order to be successful, must, therefore, present its matter in an original and convincing manner.

The authors seem to have been cognizant of this fact, and have stamped it on every page of Vol. I. We await with pleasure the appearance of Vol. II., and hope to find in it a work equally as interesting and valuable as Vol. I.

Part I. is devoted to Materia Medica, Pharmacy, Pharmacology and Therapeutics. Under the head of Materia Medica is placed in tabulated lists the natural distribution of the remedies at our command, comprising inorganic and organic materia medica. Pharmacy, as the true art in medicine, is considered of such importance to the physician that the authors have described the more important pharmacopeial processes and preparations in use in the laboratory and dispensary. This part of the work give the physician and student an

insight into the technique of compounding and dispensing medicines, and cannot but prove beneficial.

The classification of medicine is largely that of Garrod, modified to some extent by the teachings of Brunton. The three general classes, medicines for internal administration, external applications, and chemical agents as antidotes, disinfectants, and antiseptics, are all carefully and methodically analyzed, accompanied by diagrams showing the comparative value of the different drugs and mode of action. Perhaps in no subject is the saying, "classification is everything," so cogent as in pharmacology. The authors have rendered this work of inestimable value through the many carefully compiled tables which it contains, facilitating the study of drugs as no other method can do.

Part II. treats of remedies and remedial agents used in the treatment of diseases not properly classed as drugs. The chapter on electro-therapeutics embraces a thorough study of the constant, interrupted, and static electricity with their indications and mode of administration. Then follow chapters on Oxygen, Hydro-therapeutics, Masso-therapeutics, Heat and Cold, Mineral Waters, Metallo-therapy, Transfusion, Hypnotism and Suggestion, Earth Dressing, Baunscheidtismus, Climatology, Light, Music, Blood Letting, and Suspension, making a complete encyclopedia of therapeutical knowledge. Some of these agents, now of recognized therapeutical worth, having been slighted by many of the older works, receive in this book full and frank consideration.

Paper, print, and binding help to make the book redound with praise to editors and publishers alike. W. C. K.

A Text-Book of Human Physiology, including Histology and Microscopical Anatomy; with special reference to the requirements of Practical Medicine. By Dr. L. LANDOIS, Professor of Physiology, University of Greifswald. Third American, translated from the Sixth German Edition, with additions by William Sterling, M. D., Sc. D., Brackenbury, Professor of Physiology and Histology in the Owens College, and Professor in the Victoria University, Manchester, etc. With 692 illustrations, 8vo, pp. 974. Philadelphia: P. Blakiston, Son & Co. Buffalo: Peter Paul & Bro. 1889.

This standard text-book is welcome in its third American edition. The translator has brought the science, of which he is an acknowledged exponent, well abreast of the period in this last rendering of the German into English, having made numerous additions to the author's text, with that end in view. These are enclosed in brackets so that the authorship is easily distinguished. The work now appears in a single volume, and the publishers have made it as handsome a specimen of the book-making art as can be produced.

Physiology is such a necessary complement to anatomy, and the two are so intimately blended, that it is impossible to acquire the one without some knowledge of the other. Moreover, it is as essential to the physician to constantly refresh his physiological studies as it is for the surgeon to keep himself intimately informed in all the anatomical minutiæ of the human body. Hence, it is important that both shall study these two corner-stones of the science of medicine with a sleepless, tireless energy, that shall keep them so amply equipped for the practice of their respective departments that no emergency can surprise them. This makes it imperative for all to examine with care all the latest and newest authorities in physiology and anatomy, and to compare the work of the several authorities with great accuracy. We believe that such a comparison will result in a favorable verdict for the work of Landois and Sterling, and, therefore, we unhesitatingly commend it to all who would do themselves even and exact justice. In the histological studies of these eminent authors will be found much of interest, as the latest authoritative expressions upon many moot points. The illustrations are especially to be commended as elucidating the text with great clearness, especially upon histology.

I. Diabetes, Mellitus and Insipidus. By ANDREW H. SMITH, M. D., Professor of Clinical Medicine and Therapeutics at the New York Post-Graduate Medical School; Physician to the Presbyterian Hospital, etc., etc. The Physicians' Leisure Library. Detroit: George S. Davis. 1889.

II. Education and Culture as Relate to the Health and Diseases of Women. By ALEX. J. C. SKENE, M. D. The Physicians' Leisure Library. Detroit: George S. Davis. 1889.

I. In this brochure of five chapters and seventy-five pages will be found an intelligent setting forth of the latest professional thought on these two forms of diabetes. Four chapters are devoted to the consideration of diabetes mellitus, in which its clinical history and complications; its pathology and morbid anatomy; its causes, diagnosis, and progress; and its prevention and treatment, are carefully considered. The remaining chapter is devoted to the insipid variety of the disease, or polyuria.

II. The great importance of the subject of education and culture as correlated to Health and Diseases of Women, is beginning to be appreciated by physicians, and Dr. Skene has presented an interesting essay upon it that ought to be extensively and carefully read. The late Dr. E. H. Clark, in his Sex in Education, began a work in this field that is bearing good fruit, and this latest contribution to the subject—for these two treatises have an unmistakable kinship—is one every way worthy of both title and author. The price of these two late additions to the Physicians' Leisure Library is the same as the others, viz.: in paper, 25 cents; and in cloth, 50 cents.

BOOKS AND PAMPHLETS RECEIVED.

Spinal Concussion: Surgically Considered as a Cause of Spinal Injury, and Neurologically Restricted to a Certain Symptom Group, for which is Suggested the Designation Erichsen's Disease, as one of the Traumatic Neurosis. By S. V. Clevenger, M. D., Consulting Physician to the Reese and Alexian Hospitals, Chicago, etc. Philadelphia and London: F. A. Davis. 1889. Cloth, 8vo. pp. iv., 359. Price, $2.50, net.

Animal Alkaloids. The Ptomaines, Leucomaines, and Extractives in their Pathological Relations. By Sir William Aitken, Bart., M. D., LL. D., F. R. S. Second edition. Philadelphia: P. Blakiston, Son & Co. 1889.

A Manual of Organic Materia Medica. Being a guide to Materia Medica of the vegetable and animal kingdom, for the use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch, Ph. M., Phar. D. Fourth edition. With 259 illustrations. Philadelphia: Lea Brothers & Co. 1890.

Hand-book of Materia Medica, Pharmacy, and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, M. A., M. D. Second edition. Revised and enlarged. Philadelphia: P. Blakiston, Son & Co. 1890.

Transactions of the American Association of Obstetricians and Gynecologists, for the Year 1889. Philadelphia: William J. Dornan, Printer.

Diseases of Women and Abdominal Surgery. By Lawson Tait, F. R. C. S. Edin. and Eng., L. L. D. Vol. I. Philadelphia: Lea Brothers & Co. 1889.

The Medical Register of New York, New Jersey, and Connecticut, for the year commencing June 1, 1889. Published under the supervision of the New York Medico-Historical Society. William S. White, M. D., Editor. Vol. XXVI. New York: G. P. Putnam's Sons. 1888.

Translations of the Medical Association of the State of Missouri, at its Thirty-second Annual Session, held at Springfield, Mo., May 21, 1889.

The Principles and Practice of Surgery. Being a Treatise on Surgical Diseases and Injuries. By D. Hayes Agnew, M. D., L. L. D. Profusely illustrated. Second edition, thoroughly revised, with additions. In three volumes. Volumes I., II., and III. Philadelphia: J. B. Lippincott Company. 1889.

Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania. By Richard C. Morris, A. M., M. D., Demonstrator of Obstetrics in the University. Philadelphia: W. B. Sanders. 1890. Price, $2.00, net.

First Annual Report of the State Commission in Lunacy, for the State of New York. Albany: James B. Lyon, State Printer. 1890. Through Hon. Leroy Andrus.

Ninteenth Annual Report of the Managers of the Buffalo State Asylum for the Insane, for the Year 1889. Albany: James B. Lyon, State Printer. 1890.

Thirty-seventh Annual Report of the Young Men's Christian Association, of Buffalo, for the year ending September 30, 1889. Published by the Association. Baker, Jones & Co., Printers. 1889.

Report of Ninety cases of Rapid Dilatation of the Uterine Canal for the Cure of Dysmenorrhea and Sterility. By Franklin Townsend, M. D. Albany, N. Y. Reprint from the Transactions of the American Association of Obstetricians and Gynecologists. 1889.

A Case of Extra-Uterine Pregnancy. Operation. Recovery. By L. S. McMurtry, M. D. Louisville, Ky. Reprint from the Transactions of the American Association of Obstetricians and Gynecologists. 1889.

A Study of the Pathology and Treatment of Intra-Pelvic Inflammations. By L. S. McMurtry, M. D. Louisville, Ky. Reprint from the Transactions of the American Association of Obstetricians and Gynecologists. 1889.

Speech of Mr. Ingalls, of Kansas, in the Senate of the United States, Thursday, January 23, 1890, on the Bill (S. 1121) to provide for the emigration of persons of color from the Southern States.

Our choice of Methods in the Treatment of Uterine Cancer. By Reeves Jackson, A. M., M. D. Professor of Gynecology in the College of Physicians snd Surgeons, of Chicago. Reprint from the *Medical News*, January 18, 1890.

The Application of Forceps to Transverse and Oblique Positions of the Head. Description of a New Forceps. By Henry D. Fry, M. D., of Washington, D. C. Reprint from the *Journal of the American Medical Association*, November 9, 1889.

A Successful Case of Laparatomy and Supra-Vaginal Amputation of the Uterus for Rupture. By Henry C. Coe, M. D., M. R. C. S., Professor of Gynecology at the New York Polyclinic, etc. Reprint from the *Medical Record*, November 2, 1889.

Cornell University, College of Agriculture. Bulletin of the Agricultural Experiment Station. All Departments, xv. December, 1889. Sundry investigations made during the year. Published by the University, Ithaca. 1889.

Rede zur Feier des 75 jährigen Bestehens der Königlichen Frauenklinik zu Dresden gehalten in der Festsitzung der Dresdner Gynäkologischen Gesellschaft, Donnerstag, 5. December 1889. Von Professor Dr. Leopold, Ober-Medicinalrath, Director der Königl. Frauenklinik und Mitglied des Königl. Landes Medicinalcollegiums in Dresden. Dresden: Wilhelm Baensch Verlagshandlung. 1890.

Medical Department, University of Worcester. Announcement for 1890. Cleveland, O., 1889.

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Literary and Other Notes.

The N. Y. Physicians' Mutual Aid Association is a benevolent organization for the assistance of sick and destitute members, and the families of deceased associates.

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Original Communications.

PERITYPHLITIS AND ITS SURGICAL TREATMENT.[1]

By HERMAN MYNTER, M. D.,

Professor of Surgery, Niagara University.

Ten years ago, (September 2, 1879,) I read a paper before the Buffalo Medical Association on Perityphlitis, which was published in the October number, 1879, of the Buffalo Medical and Surgical Journal. I called the attention of the Association to the operative treatment, then new, of this disease as advocated by the late Dr. Gurdon Buck, and described its pathology, diagnosis, prognosis, and treatment.

In discussing the pathology, I followed the nomenclature of Prof. With, of Copenhagen, who described (1) a peritonitis appendicularis adhesiva, in which the ulceration in the appendix vermiformis goes so deep that the peritoneal covering is affected and adhesions are formed; (2) a peritonitis appendicularis localis, characterized by local peritonitis and primary abscess; and (3) a peritonitis appendicularis universalis, in which we have diffuse peritonitis by perforation into the peritoneal cavity.

The cases belonging to the first division, were those with obscure symptoms, local tenderness in right ileo-cecal region, a little vomiting and general ill-feeling for a few days. I stated that they recovered generally promptly by rest, opium, poultices, and avoiding cathartics, but that they frequently relapsed in course of time and might then be followed by the more severe forms. The second form, peritonitis appendicularis localis, I described as characterized by local abscess, generally and primarily intra-peritoneal, but on account of adhesions in reality extra-peritoneal, and extending downwards toward Poupart's ligament, above which, in course of time, they might be and ought to be opened by operation. I have seen and treated six such cases suc-

1. Read before the Hornellsville Medical and Surgical Association, December 2, 1889.

cessfully. For a time the treatment is rest, opium, poultices and no cathartics, and the operation ought to be performed as early as possible to avoid perforation into the abdominal cavity. The third form, peritonitis appendicularis universalis, could either start as such if the perforation took place before adhesions had formed, or by secondary rupture of a well-developed abscess. In regard to these cases, I stated ten years ago that they almost universally terminated fatally in a few days, that no treatment was of any avail, but I expressed a belief (page 122,) that the time would come when in such cases we would open the abdominal cavity and ligate the appendix vermiformis.

During the past ten years a great deal has been written about perityphlitis and its treatment, and it is now almost universally acknowledged that this is distinctly a surgical disease which can only be treated by surgical means, particularly in its most severe forms, where we have either a circumscribed abscess or a diffuse peritonitis.

The three divisions,—adhesive, circumscribed, and diffuse peritonitis,—are still recognized as the different forms, and surgeons differ now very little in regard to the treatment of the second class, circumscribed abscess. It ought to be opened by direct incision as early as it is possible without opening the abdominal cavity. It is in regard to the third form, diffuse peritonitis, that there still is some doubt about the treatment.

The question has been discussed by the leading medical associations of England, the Continent, and America, and is still being discussed; the medical journals are full of reports of cases of successful operations, and it is acknowledged, by all surgeons at least, that this disease can only successfully be treated by surgical means, while physicians yet are loth to acknowledge that it has passed into the domain of surgery. In Buffalo, for instance, a young physician, not long ago, was allowed to die in five days from perforative peritonitis in the hands of an old and most distinguished physician, who discouraged all thoughts of operative interference and relied upon poultices and opium. The post-mortem showed diffuse peritonitis from perforation of the appendix and satisfied the attending physician, but too late, that nothing but an early operation could have been of any avail.

Compare the results of a few years ago when the disease was treated expectatively with those of to-day!

In the discussion of my paper ten years ago the late Dr. Rochester, for instance, stated that he had treated twenty-three cases, seventeen of which were fatal, a mortality of seventy-four per cent.

Krafft gives a statistic of 106 cases (probably an old one, as only

eight were operated, gathered together through years,) with a mortality of eighty-four—seventy-nine per cent. I myself have, during the last few years, treated twelve cases, all of which recovered, six after operation. In the following pages I shall give a short review of the opinions of the best known surgeons, both here and abroad, in regard to disputed points.

Bull (*Transactions of the American Surgical Association*) considers perityphlitis an inflammation of either cecum or appendix with their peritoneal covering or the cellular tissue in the iliac fossa. He considers it impossible to distinguish between an inflammation of the cecum and the appendix. He, as do most writers, thinks ulceration leading to perforation more frequent in the appendix than in the cecum, but calls the attention to the fact that catarrh of the cecum, in which the appendix participates, is of frequent occurrence too. I suppose the truth is that it may start in either, and that the catarrh by dilatation may favor the entrance of fecal matter, which again may form a concrement with consecutive ulceration, and that perityphlitis from whatever cause always is accompanied with inflammation of the neighboring peritoneum. Bull distinguishes between a catarrhal perityphlitis tending toward recovery, but then leaving behind adhesions to the parietal peritoneum, the intestines or the omentum, and a suppurative perityphlitis, which either may be spreading (diffuse peritonitis) or limiting (circumscribed peritonitis), followed by extra-peritoneal abscess.

A catarrhal perityphlitis may go on to a suppurative form too. Krafft (*Volkman's Klinische Vortrage*, Jan., 1889) on the other hand considers resolution impossible and believes that there is always a pus focus left, which may not give any symptoms but which may again start up at any time. He mentions a statistic of 106 cases, in eighty-four of which an autopsy was made, and in each an ileo-cecal abscess was found. Operation was performed in eight cases and in each an ileo-cecal abscess was found. The remaining fourteen cases opened spontaneously into cecum and elsewhere. Judging from the few operations performed, and the great mortality, the statistic is probably more than ten years old. It is scarcely possible to get such a statistic together now. That resolution may and does take place is conclusively shown by my countryman, Dr. Toft of Copenhagen, who in thirty-five per cent. of all post-mortem examinations found residua, in the form of adhesions, of perityphlitic inflammation. It shows, too, the frequency of the trouble.

Mikulicz, of Königsberg (*Annals of Surgery*, October, 1889), distinguishes two forms of perforative peritonitis, which are essentially

distinct. The first form, diffuse septic peritonitis, results when a large quantity of intestinal contents suddenly pours into the abdominal cavity through a large perforation. The resulting peritonitis is characterized by sanguino-serous or purulent, putrid, thin, fluid exudation, injected peritoneum, at times covered by thin fibrinous deposit. Extensive adhesions are lacking. Laparatomy is always indicated in order to find and suture the opening and disinfect the peritoneum. In the second form, which he calls progressive fibro-purulent peritonitis, the peritoneum is at first only affected in the immediate vicinity of the perforation, a fibro-purulent exudation is formed which prevents by adhesions the infection of the whole peritoneal cavity. The process spreads and incapsulated pus foci are formed between the glued intestines.

The treatment of this form consists in opening each intra peritoneal focus separately and protecting most carefully the adhesions. Laparatomy is, therefore, absolutely contra-indicated. Mikulicz reports two successful cases of the latter; in one six intraperitoneal pus cavities were opened through three incisions; in another three pus cavities by three incisions. The openings were made at different times as the existence of the pus foci became evident.

Treves (discussion in the British Medical Association, August, 1889,) does not believe in a catarrhal form of perityphlitis. If catarrh only is present we have colitis, not typhlitis; the latter is always produced by ulceration, and the symptoms occur first when the ulcers have extended to the outer wall. Perforation of the cecum primarily he considers rare. The milder forms he thinks are caused by peritonitis of the cecum, the graver by disease of the appendix.

The late Dr. Sands (*New York Medical Journal*, February, 1888,) makes the usual three sub-divisions but mentions besides as a fourth division, obscure cases with slowly progressing symptoms, moderate pain in cecal region, little tenderness and no swelling, with little or no fever. After a time they grow worse with increasing tenderness, meteorrhismus, collapse, and death. Post mortem shows perforation and gangrene, insufficient adhesions and a slowly progressing septic peritonitis with pus and fecal matter between the coils. I am inclined to believe that these cases, of which I never saw any, represent secondary perforation into the abdominal cavity of a primarily limiting or circumscribed perityphlitis.

The question whether a perityphlitic abscess is intra- or extra-peritoneal has been debated and debated again. I do not see the reason for any disagreement on this point. Both cecum and the appendix are, according to Bull and others, always completely invested with

peritoneum. An abscess which starts in the appendix must necessarily in the beginning be intra-peritoneal, limited by adhesions. If the adhesions are strong, and exudations continue to be deposited so that perforation into the abdominal cavity is prevented, the parietal peritoneum will become perforated, and the pus is then in the retro-peritoneal tissue in the iliac fossa,—an extra-peritoneal abscess. After such an abscess has been opened, it is often possible to feel the agglutinated coils of the intestines that form the roof and anterior wall.

Krafft believes perforation of the cecum always to be secondary, the abscess perforating into the cecum instead of elsewhere.

Robert Weir (discussion in New York Surgical Society, April, 1889,) rather conclusively proves the intra-peritoneal origin. He had found in one hundred autopsies general suppurative peritonitis fifty-seven times, circumscribed abscesses thirty-five times (in thirteen of which general peritonitis also was present) and extra-peritoneal abscess only in four cases. In each of these four cases there was a large, ragged opening, showing that an ordinary necrotic process of the peritoneal wall had made the abscess extra-peritoneal.

While I therefore agree that these abscesses necessarily are intra-peritoneal in the start, I, on the other hand, must agree with the late Dr. Sands that, if circumscribed in the iliac region, they always are, for all practical purposes at least, extraperitoneal, take the course of all abscesses in this region and must be opened by an extra-peritoneal operation, those of progressive fibro-purulent peritonitis of Mikulicz alone excepted. These are always, even when circumscribed, intra-peritoneal.

A few words may be said about the statistics of relapses, perforations, and fecal concretions which have been gathered during the last ten years. A person who has recovered from an attack of perityphlitis is ever after in danger of a relapse, which may be either mild or the most severe form of perforative peritonitis. Krafft mentions a statistic of 106 cases, of which twenty-four—twenty-three per cent.—had had previous attacks, generally one to three years previously, in one case twenty years previously. Treves mentions one case who had had fourteen attacks and had been in bed twelve months, and Lawson Tait one who had three attacks inside six months. In regard to perforations, Matterstock found perforations in 132 of 146 cases, Fenwick in 113 of 129—ninety and eighty-six per cent. The perforation is usually at the free end, but may be circular and, as Krafft says, so to speak amputate the appendix. In Matterstock's 146 cases fecal concretions were found sixty-three times, a foreign body nine times. In Krafft's 106 cases thirty-six fecal concretions and four

foreign bodies were discovered. Only small bodies can enter on account of Gerlach's valve. A cherry pit can enter only with difficulty, a plum stone not at all. Sedentary habits and constipation are considered predisposing.

In regard to symptoms I shall be brief, as they are well known. In catarrhal inflammation, dull pain and tenderness in the right iliac region are predominant, besides loss of appetite, nausea, slight vomiting, constipation or diarrhea. If severe chills and fever follow, suppuration may be suspected, but even then the symptoms may disappear. I lately saw such a case in a lawyer, thirty-nine years of age, in which the disease was ushered in with severe chills, high fever, vomiting, and tenderness, with tympanitic percussion. A distinct tumefaction and resistance was felt the third day, yet all the symptoms disappeared inside a week.

The tumor must not be confounded with the cecum filled with feces and extending upwards toward the ribs.

If an abscess is forming, the fever will continue but be less intense, the temperature ranging between 101° and 103°. The vomiting stops, the tumor is felt more and more plainly, extending downwards toward Poupart's ligament; but the tenderness, which during the first twenty-four hours is not always confined to the iliac region but may be present over almost the whole abdomen, is now present only here, the rest of the abdomen being soft and not tender. Then comes a rather anxious time for the surgeon, he being doubtful whether to operate immediately or not, as more severe symptoms may suddenly occur, indicating perforation of the abscess.

The earlier the operation is done the more difficult it is, as the peritoneum is not pushed aside and lifted away from the iliac fascia by the abscess. In a recent case, operated on the seventh day, I made the usual incision down to the fascia transversa. I then introduced the exploring needle, and meeting pus I carefully incised with the needle as a guide. I was rather surprised by getting prolapse of the omentum, having opened the peritoneal cavity. I closed the opening with catgut sutures, went in one-half inch lower, lifted the peritoneum up for about two inches and succeeded in opening the abscess from behind. My patient recovered without mishap.

If perforation occurs primarily or secondarily the chill, pain, and vomiting are followed by collapse and the tenderness spreads over the whole abdomen. Tympanitis sets in, fecal vomiting occurs, prostration increases, and death follows in from three to five days. Bull mentions as diagnostic signs of spreading peritonitis: Continuance of pain, vomiting, constipation, fever and rapid pulse, abdomen slightly

swollen, walls rigid and resisting, but tenderness most marked in iliac region where there is found more resistance and tympanitic percussion. On the other hand we meet cases where the vomiting stops, the fever is slow, the pulse less rapid, yet the general tenderness indicates spreading peritonitis.

McDougall (*Lancet*, September, 1888) gives the following diagnostic symptoms of perforation: Pain is more sudden and agonizing and often fixed at a distance, as the epigastrium, umbilicus, bladder, and nervus cruralis. Vomiting is not continuous. Temperature lower than in circumscribed perityphlitis, seldom above 101°, pulse higher, above 120; rapid formation of iliac tumor.

Krafft mentions flexion of the hip-joint as characteristic of perityphlitis. I disagree with him on that point. I never saw flexion (contraction of the ileo-psoas muscle) in perityphlitis, and see no reason why it should occur. The strong fascia iliaca is between the abscess and the muscle, otherwise the point of perforation of the abscess, if left to itself, would be down on the femur below Poupart's ligament. Contraction of the psoas muscle, in short, occurs only when the muscle either is actually inflamed (acute psoitis) or perforated and infiltrated with pus from a cold abscess depending upon necrosis of pelvis, caries of spine, etc.

When we, lastly, consider the treatment, then there is little difference of opinion in regard to adhesive perityphlitis. All authors agree now that the adhesive peritonitis is best treated by absolute rest, absolute diet, avoidance of all cathartics, and opium in sufficient amount to prevent peristaltic movements. My old preceptor, Prof. With of Copenhagen, kept his patients constipated even for three weeks, and I have followed his example in my cases, the only disagreeable result being that I sometimes have had to deliver by manipulations the old and hard scybalæ. I do not use morphia, but the common tincture of opium. I do not believe morphia retards or prevents peristaltic movements as well as opium.

We see yet, occasionally, these cases treated with cathartics and I cannot strongly enough discourage this practice, which I consider a most dangerous one.

We probably always have first a dilatation of the appendix and its opening into the cecum, and consequently the contents of the bowels enter with greater ease. The appendix has a large absorbent surface so that the fluid is absorbed while the solid parts are left and form concrements. It stands to reason that, under such circumstances, cathartics are injurious, as we succeed only in making the contents of the bowels thinner, so that they easier can enter the dilated or inflamed

appendix, increase the concrements and favor the ulceration. Baldy's method, the use of strong cathartics in peritonitis, has its use, and is no doubt of benefit in septic peritonitis following laparatomies, for instance, but is, in my opinion, distinctly dangerous in cases in which we have perforation of a hollow viscus or threatening perforation, as in perityphlitis.

Neither is there any difference of opinion in regard to the treatment of circumscribed perityphlitis except in some minor points, as, for instance, the direction of the incision, the time when it ought to be performed and the like Bull advises to operate as early as possible (one week) by incision parallel with and a finger's breadth above Poupart's ligament—Gurdon Buck's method. The incision passes gradually through the different layers till the transversalis fascia is reached. Note whether the muscles are edematous, as it indicates that the abscess is near. An exploring needle may now be used, and, pus being found, incision may be done with the needle as a guide; or, what is safer, the deeper tissues may be torn through with two forceps till pus is found. In one case I got prolapse of the omentum by incising on the needle. No operation is complete till pus is found, although occasionally the abscess has not been found.

It is recommended, then, to plug the opening with iodoform gauze, and the abscess will discharge itself through the opening later. Concretions having been removed if present, a large drainage-tube is introduced, the abscess cavity syringed out with an antiseptic fluid, and an antiseptic bandage applied. All symptoms disappear immediately and the wound heals generally in three weeks. Nothing is seen or felt of the appendix as a rule. It is probably completely obliterated, as there is no case on record in which relapse occurred after a successful operation of a circumscribed perityphlitic abscess.

In regard to the question when the operation should be done: Sands advises to operate between one and two weeks; Bull as soon as you can (one week). My experience is that the earlier the operation is done the more difficult it is. The peritoneum is not pushed away from the iliac fascia and we run the risk of opening the peritoneal cavity, as happened to me in one case. The abscess must then be attacked from behind. The later it is done, the easier is it, but for days we run the risk of secondary perforation into the abdominal cavity. If the tumor has extended so far down that you can feel its lower margin just above the Poupart's ligament, you can operate without fear. If the lower margin is an inch above Poupart's ligament I should prefer to wait, unless serious symptoms occur.

While there is, as we have seen, little disagreement in regard to

the treatment of adhesive and circumscribed perityphlitis, it is different when we come to consider the treatment of perforative peritonitis in its several forms. Ten years ago I predicted that in such cases we would shortly make laparatomy, extirpate the appendix and cleanse the abdominal cavity, and this treatment has now been recognized by all surgeons as the only one which offers any chance of recovery. There is still some diversity of opinion in regard to the best method of operation, the time for doing it and how to treat the appendix; but the universal comment, in fatal cases, is that the operation was done too late. Mikulicz was the first to perform laparatomy for a non-traumatic perforative peritonitis in 1880. Bull has made laparatomy in six cases for supposed perforation, two of which died. His earliest operation was done in thirty-six hours, the latest in five days. He advises laparatomy at once in spreading peritonitis, whether due to a primary or secondary perforation. He prefers a vertical or slightly oblique incision, three or four inches long, and starting one inch above the middle of Poupart's ligament. Having opened the peritoneum, he separates the adhesions to the omentum and bowels, evacuates the fecal matter and concretions, taking particular care to protect the abdominal cavity with sponges. If he can find the appendix he advises to ligate and promptly remove it; if the cecum is perforated, he would suture the wound; if the omentum is much infiltrated, he advises to resect it. After carefully cleansing the abdominal cavity, he plugs the wound with iodoform gauze, having first introduced a large drain to the bottom of the fossailiaca.

McDougall prefers to wait till the fourth or fifth day in order to let adhesions form. If symptoms of collapse follow the perforation he lets the patient rally first. He prefers a median incision, complemented, if necessary, with a lateral opening in the iliac region. He may possibly be able to cleanse the abdominal cavity better with a median incision, but it will be more difficult to find and treat the appendix. Robert Weir has had a successful operation inside twenty-four hours after perforation, but has never seen any recover after the peritonitis has become general. Most members of the New York Surgical Society were in favor of delaying the operation till pus had formed, and expressed themselves against immediate operation. Yet the more and more frequent reports of successful early operations speak volumes against delay. Dr. Jacobus, for instance, reports a successful case of early operation in the New York *Medical Record* of February, 1889; Dr. Sands, another one, a boy eleven years of age, performed inside forty-eight hours. (New York *Medical Journal*, February, 1888.) Sands used a vertical incision and found spreading

peritonitis without limiting adhesions. A fecal concretion was discovered and removed. The appendix was found ulcerated but not gangrenous, and was left in situ. The wound was treated openly with iodoform gauze. Sands thinks that operation cannot be done too early and, to be successful, must be done before the septic peritonitis has become general. The American surgeons are the ones who have taken the lead in advocating early operations.

Sonnenburg (Discussion in the Surgical Association of Berlin in July, 1889,) thought operation useless if we had diffuse peritonitis. He proposed in doubtful cases to make an incision down to the peritoneum, and then again examine by palpation. If he then could not feel the abscess he would plug the wound with iodoform gauze and examine next day again, possibly with the exploring needle. He, so to speak, advised operation *en deux temps*. I can see no advantage in this proposition. The opening of the peritoneal cavity, if done with proper precautions, would add no danger to the operation, and would at once inform us of the conditions and of the means to overcome them. Most authors agree that operation is useless when the peritonitis has become general. Why then allow it to become general? I myself can see no prospect of success except in early and immediate operation, at most waiting till the patient has rallied from the collapse. In one of my cases, as mentioned, I unintentionally opened the abdominal cavity and got prolapse of the omentum, but my patient recovered nevertheless.

Lastly, one important question is left: what to do in relapsing attacks of perityphlitis? That a mild previous attack is no guarantee that later attacks will be equally mild, is already mentioned; also, that a patient with perityphlitis is ever after in danger of relapse. The question has, therefore, naturally been asked if it is not less dangerous to extirpate the appendix while the patient is well or convalescent, than to let him run the risk of a further attack about the severity of which we can have no opinion.

A positive cure, Krafft says, free from relapses is only possible with operative treatment. He believes that in a few years every perityphlitic abscess will be operated upon, even after the disappearance of all symptoms, and the appendix ligated and cut off. Bull considers it still doubtful whether we in relapsing cases ought to make laparatomy and remove the appendix.

It is our English cousins who have been first to carry this idea into execution, and particularly that master of laparatomy, Lawson Tait. The *British Medical Journal*, of October 5, 1889, contains the report of a case of recurrent perityphlitis successfully treated by abdominal

section by Mr. Tait. The patient, twenty-seven years of age, had suffered from repeated attacks of perityphlitis for six months, three in all, the last one being the most severe. During each attack the characteristic egg-shaped tumor had been felt during the acute attack, and was still distinctly marked. Incision was made over the cecum, three inches long and one inch from the anterior superior spine of the ileum, and a suppurating cavity opened on the outside of the cecum. The appendix was discovered swollen to three times its size. It was split open about half an inch from its free end and some purulent fluid evacuated. A foreign body, felt in the appendix higher up, was pushed into the cecum with a catheter. Although the operation had been made extra-peritoneally, the abdominal cavity was opened during the manipulations but the opening was closed with sutures. The appendix was not removed but a drainage-tube was introduced into it and left in position for a couple of days. The patient recovered without bad symptoms.

In similar cases Lawson Tait has twice removed the appendix, finding it thickened, swollen, and suppurating; but he thinks the risk increased by this proceeding and the removal unnecessary. He would prefer opening the appendix and draining it. Treves mentions one patient who had had fourteen attacks and been in bed twelve months; he, too, recovered. He also is in favor of operating between the attacks in cases of relapsing perityphlitis. I have so far seen no case in which I would have advised this proceeding. Although the percentage of relapse is high—twenty-three per cent.—it is in my opinion scarcely high enough to justify such a serious operation, except in unusual cases with continued relapses, which make the life of the patient such a burden and misery to himself that he will take any risk to get well.

195 Franklin Street.

ADENOID VEGETATIONS OF THE NASO-PHARYNX.[1]

By W. SCOTT RENNER, M. D., C. M., Buffalo, N. Y.

These growths are simply hypertrophy of the lymphoid tissue found normally abundant during childhood in the vault of the pharynx. They occur in two forms. The first of these is merely hypertrophy of the pharyngeal or Luschka's tonsil, and presents, on examination, a broad sessile outgrowth from the Basilar process of the occipital bone, which may vary in size from a slight enlargement of

1. Read to the Buffalo Medical and Surgical Association, February 11, 1890.

the tonsil to a mass filling the naso-pharynx. At times furrows may be seen on the surface of this tumor, extending antero-posteriorly. The middle one of these often ends in a depression at its posterior extremity, from which mucus, or muco-pus, may be seen discharging. The second form occurs as a mass of more or less pedunculated outgrowths from a lymphoid base. These are attached to the roof, posterior and side walls of the naso-pharynx, and, according to some authors, to the posterior margin of the septum narium. They represent not only hypertrophy of the pharyngeal tonsil, but of all the lymphoid tissue of the vault.

The clinical manifestations of these growths and their association with other and similar conditions are such, that it becomes necessary to refer to the distribution of the lymphoid tissue in the throat to appreciate the history of many of the more interesting cases.

Luschka's tonsil is the upper part of the ring of lymphoid tissue described by Waldeyer and Bickel, which extends along the roof and lateral walls of the pharynx from the Basilar process to the base of the tongue, and includes the masses of lymphoid tissue known as the pharyngeal tonsil, the tubal tonsils of Gerlach, the faucial tonsils, and the lymphoid masses, improperly called the lingual tonsils. These are connected together by a net-work of lymphatic vessels and lymphoid follicles; from this ring lymphoid tissue extends to the floor of the mouth and into the nose, in some cases as far as the epiglottis and false cords, and to the anterior extremities of the lower and middle turbinated bodies. The lymphoid tissue of the velum-palati forms, with the lower part of this ring, an inner and smaller ring.

The bursa pharyngea was first described by Luschka, as a pouch imbedded in the pharyngeal tonsil and connected by a band of connective tissue with the basilar process of the occipital bone. Ganghofner denied the existence of the bursa as described by Luschka, and considered it a more or less well-marked depression of the mucous membrane covering the pharyngeal tonsil, having no great depth and no connection with the basilar process by means of a band of connective tissue. In 1885, Thornwald published a monograph in which he stated that of 892 cases of naso-pharyngeal disease, he had treated 157 for hypersecretion and forty-five for cystic formation of the bursa pharyngea. This statement engendered much careful investigation as to the constancy of this condition, anatomically on the cadaver, fetus and embryo; clinically more careful examinations have been made with the rhinoscopic mirror. Schwabeck, prominent among the anatomists, has demonstrated the configuration of the tonsil described by Wendt and Ganghofner, *i. e.*, a surface marked by numer-

ous furrows and ridges of various depths, these gradually disappear as age advances, and that the bursa of Thornwald, when present, is but a remnant of the middle pharyngeal cleft of embryonic life, being its posterior end, formed by the partial union of its margins, and not a special anatomical formation; into this depression the fissures of the tonsil, especially the middle one, extend and give it, when the tonsil is diseased, the appearance of a discharging bursa. Clinicians,—Schafer, of Bremen, and many others,—have also failed to demonstrate its constancy, and likewise regard its presence as a part of the disease of the tonsil or a congenital defect.

I have felt it necessary to refer to the anatomy of this part of the throat in order that the special objects of this paper might be more easily understood. I wish to direct your attention to the importance, clinically, of adenoid vegetations and of the condition of the bursa pharyngea, and of the faucial and lingual tonsils in some of the cases of which I shall speak.

As clinicians, our duty is to seek the cause of complaint, remove it if possible, so that the symptoms and sequelæ may disappear, or be modified, if of so long standing that they have produced permanent structural changes. I shall follow this order in discussing these growths, *i. e.*, I shall speak, first, of the signs, etc., which call for a special examination of this part of the pharynx. Secondly, of the method of treatment, and finally of the symptoms and sequelæ individually with the effects of the prescribed treatment upon them.

The symptoms of this condition divide themselves naturally into direct and indirect. The direct include catarrhal discharge from the naso-pharynx, and nasal obstruction, *i. e.*, obstruction of respiration, phonation, olfaction and obstruction of the Eustachian tubes; these express themselves, clinically, as mouth-breathing, defective vocal resonance, loss or partial loss of the sense of smell, and catarrh of the Eustachian tubes and middle ear, with their consequences, the indirect and reflex symptoms of adenoid vegetations. Nasal obstruction is caused by all nasal and naso-pharyngeal growths, whether hypertrophic, neoplastic, or congenital; therefore it cannot be of much value in suspecting the nature of the growth before a physical examination is made, unless accompanied by the "dead toneless voice" and the facial expression which has been described as pathognomonic of this condition, neither of which, however, are well marked unless a very large amount of adenoid growths, or an associated hypertrophy of the faucial tonsils be present. What, then, should make one suspect adenoids in a case of nasal obstruction? First, the age of the patient. They occur usually in children between five and fifteen years of age,

sometimes as early as the fourth year, quite frequently between the fifteenth and twentieth year, and where resolution is delayed between the twentieth and the twenty-fifth year. Cases beyond twenty-five are the exception. Since I came to Buffalo, less than four years ago, 110 patients have consulted me for this condition. Of these, seventy-four were under fifteen years of age, twenty-two between fifteen and twenty; thirteen over twenty and under twenty-five years of age; one was forty years of age. The oldest patient on whom I have operated was a young man in his twenty-fourth year. I saw Schroetter operate on an actress of thirty. It has been found necessary to operate on cases in their forty-fifth year. In the case forty years of age the patient was under treatment for a deviation of the septum and hypertrophic rhinitis. Some enlargement of the pharyngeal tonsil was meanwhile discovered, with a copious discharge from its surface. In this case I cauterized the tonsil, not to relieve obstruction but to destroy the source of naso-pharyngeal catarrh. Cohen, of Philadelphia, mentions a case which he had under treatment for goitre. This was in a lady of seventy. On examining the naso-pharynx, he found some enlargement of the pharyngeal tonsil.

Of 500 cases of diseases of the throat and nose treated by me at the Buffalo Eye and Ear Infirmary, 126 were children under fifteen years of age, of whom seventy-six complained of nasal obstruction; this was due in forty-nine cases to adenoids, simple or complicated; in eight cases to simple hypertrophic rhinitis, in children twelve, thirteen and fourteen years of age; in one case to traumatic deviation of the septum; in the remaining cases to specific inflammation of the nose in young children. Of the patients between fifteen and twenty years old, twenty-five per cent. had adenoids; of those between twenty and twenty-five, nine per cent. had adenoids in sufficient quantities to require operative interference.

It is, therefore, evident from my experience, as well as from the evidence of others, that we should expect to find adenoid growths where children complain of nasal obstruction. First, because the lymphoid tissue usually hypertrophies during childhood, and unless there be some reason for delayed resolution, atrophies between puberty and the twentieth year; secondly, because other common forms of nasal obstruction, hypertrophic rhinitis and nasal polypi, are rare before the fifteenth year; and when nasal obstruction occurs during childhood from other causes than these growths, it is usually due to some congenital malformation or constitutional taint producing specific inflammation.

Another, the second reason which should suggest adenoid vegetations, especially in children, is the presence of hypertrophied faucial

tonsils. Of thirty-nine cases of enlarged tonsils in children under fifteen, thirty-one or about eighty per cent. had sufficient amounts of adenoid growths to require operation; or, of the 110 cases of adenoids thirty-five had marked hypertrophy of the faucial tonsils. The reasons for suspecting the association of these two are evident: both generally occur before puberty, the resolution of both usually takes place at or soon after puberty, they are similar in structure and probably in function, and causes productive of hypertrophy of one are active in producing a similar condition of the other, as diphtheria, scarlet fever, whooping cough, etc., and probably climatic influences, bad hygienic surroundings, and heredity. The majority of my cases have been ill-nourished and poorly-housed infirmary patients.

A third condition, when found, which should suggest the presence of these growths is adenoid thickening of the fauces. This may occur in various degrees, from a marked thickening of the posterior and side walls of the pharynx to but a few scattered granular follicles. Marked thickening of this nature I have generally found with the pedunculated form of the growths. It indicates merely that there is a general hypertrophy of the lymphoid tissue of the throat.

When led by the above conditions to suspect adenoids in children, the completion of our diagnosis is not difficult; when a good view of the naso-pharynx can be obtained with the rhinoscopic mirror, a papillomatous-looking tumor may be seen obstructing our view of a part or the whole of the picture of the naso-pharynx and posterior nares. Failing to introduce the mirror, the diagnosis may be easily and quickly completed by introducing the left index finger into the naso-pharynx; a practised finger will easily recognize the growth, its consistency and amount, as well as its relation to the Eustachian tubes and posterior nares. In children we are not likely to meet any other condition; after puberty we may rarely meet, in the naso-pharnyx, with some one of the solid tumors; these occur between the fifteenth and twenty-fifth year. Fibroma, the most common of these, is an extremely rare growth, and is easily recognized by its dark red color and smooth surface. I have met but one case of true fibroma of the naso-pharynx in Buffalo. Having diagnosticated the presence of these growths, they should be removed surgically. Various topical applications of iodine and caustics are advised. These have given me so little satisfaction, that I make it a rule to operate or not to treat the case. I have operated on seventy-three, less than two-thirds of my cases. Many more are pending operation, many refused to undergo operation and have been lost sight of.

I do not usually institute any preparatory treatment before opera-

ting; tonics will not improve the general health, cough mixtures and sprays will not relieve the catarrhal symptoms until the source of trouble is radically removed, then the patients will usually soon learn to breathe naturally and will regain their general health without any internal medication whatever, provided they have plenty of fresh air, good food, and hygienic surroundings. Various instruments have been advised, but success in operating seems to depend more upon the manipulative skill of the operator, than upon the form of instrument used. I shall confine my remarks to the method of operating which I follow. When possible, I operate with the patient sitting upright, after having applied cocaine to the naso-pharynx (some patients prefer the slight pain of the operation to the disagreeable sensation produced by cocaine); when it is impossible to operate in this way, on account of the age or fear of the patient, I operate with the patient under complete chloroform anesthesia (when the faucial tonsils are enlarged, they should, in either case, be removed a few days previously).

When no anesthetic is required, I use Chiaris' very simple snare with the loop at the end of the curved canula bent toward me, introducing the end of the canula along the back wall of the pharynx into the naso-pharynx until I see the loop encircle the growth, or a portion of it, and complete the operation; this, when necessary, may be repeated at the same sitting, or deferred for a day or so. The patient is able to assist me in obtaining a view of the parts by depressing the tongue while I hold the mirror in position. Where the inferior meatus is spacious, I often introduce the straight canula of the same instrument through the nose, the patient assisting me in the same manner as when operating with the bent canula, by holding down the tongue while I introduce the rhinoscopic mirror into the pharynx. In either of these ways the operation is usually completed in from one to four sittings. Sometimes I use Catti's forceps instead of the snare, and in the same manner. These forceps I use universally when the patient is anesthetised. As soon as the patient is anesthetised, my assistant draws the patient's head well over the elevated end of the operating table or a bolster, introduces Marchoni's gag, which I prefer, on account of its simplicity, (it is easily held and quickly removed with one hand by the assistant) while he manages the head of the patient with the other. As soon as the patient is in this position, I proceed to operate with the forceps, keeping the pharynx lighted by means of a head-mirror to prevent my grasping the uvula and to observe the amount of hemorrhage. After having removed all that I can safely with the forceps, I introduce my index finger and tear away any of the

tissue which I may find remaining. I prefer the finger to the curette, on account of the great advantage afforded by the tactile sense. As soon as there is any hemorrhage of importance, or when the operation is completed, the gag is quickly removed and the patient turned on the side so that the blood may run from the mouth and nose, in doing which care must be taken not to compress the chest.

The after-treatment consists of an alkaline spray. I am not in the habit of putting the patients in bed after the operation, as advised by some. Slight fever may follow, but the hemorrhage is usually trivial at the time of the operation and does not return. In one of my cases, a girl of seventeen, hemorrhage set in a couple of hours after the operation, and might have been serious but for the kindness of a neighboring physician, who had plugged the posterior nares before I reached the patient. In this case the growth was unusually dense and bled quite freely at the time of the operation.

The symptoms due to hypersecretion disappear quickly after the operation is completed and the wound healed. These manifest themselves as a discharge of tenacious mucus, or muco-pus, into the pharynx, or as an accumulation of mucus, often dried and inspissated in the nose. The presence of these produce reflex efforts to clear the throat and nose. The patient cannot clear the nose by blowing it. Cough, and especially that form known as "nocturnal nasal cough," is produced by the dropping of mucus into the pharynx at night, long after the patient has fallen asleep. Such a cough must not be mistaken for that due to elongated uvula, hypertrophy of the faucial tonsils, reflex ear cough, or cough due to enlargement of the lingual tonsils, a condition more common in middle-aged women, but rare in children. I have met it but five times in children. In only two of these cases it produced symptoms. One of these, a case in point, I shall relate:

An extremely nervous girl of fourteen was referred to me by Dr. Heath. She was slightly hoarse, but her chief complaint was that, when she had but a slight cold she was troubled with a continuous "dry hacking cough" as soon as she laid down. This persisted as long as she remained lying; a tendency to cough was always present at other times, and she was always making efforts to relieve herself of some irritation in the throat, which she could not describe. When two years of age she had whooping cough, and had been troubled with this cough more or less ever since, and was often compelled to sleep tied in a chair during the whole night. On examining her throat I found some adenoid growths, moderate enlargement of the faucial tonsils, marked enlargement of the lingual lymphoid nodules, and moderate increase in the size of the thyroid gland. I concluded that the cough was probably due to pressure of the nodules at the base of the tongue against the epiglottis when the patient laid down. I determined to confirm the truth of my suspicion by first treating only the lingual tonsil. As soon as this was perceptibly diminished in size by

cauterization, the cough had completely disappeared, and that within a week. The adenoids were subsequently removed. The patient has since improved greatly in general health, is much less nervous, much of the enlargement of the thyroid has disappeared, her voice is perfectly clear, she complains no longer of the sensation of a foreign body in the throat, and has not coughed since the first week of treatment. Furthermore, she has gained twenty pounds in weight, without any internal medication whatever.

I mentioned when speaking of the sessile form of growth that a crypt-like depression was often seen in the center, discharging mucus, etc. This I have been able to differentiate in several cases. Should the sides of the ridges of the tonsil become adherent from any cause, might not a retension cyst be the result? As an illustration of which I shall relate the only case of cyst in this region which has come under my observation. This was that of a young lady, nineteen years of age. She was very anemic, had had otitis media purulenta for several years, and complained of nasal obstruction, and the "dead, toneless voice" of adenoids. On examination, a broad sessile growth of pale color was found in the naso-pharynx, which I concluded to be adenoid vegetations, and proceeded to operate. At the first sitting I removed, with the adenoid tissue, a mass of gummy matter about the size of a medium-sized cherry, which I found, on microscopic examination, to consist chiefly of cholesterine crystals and cells in various stages of fatty degeneration. After the operation was completed she improved rapidly in general health. The otitis has not returned, and her voice, although not as clear as it should be, is rapidly regaining its resonance. The mass found in this tonsil resembled that found in obstructed sebaceous glands and in the crypts of faucial tonsils in chronic follicular tonsillitis. This case was probably of the same nature as chronic follicular tonsillitis, in which the secretion was retained by the adhesion of the margins of the middle furrow of the enlarged pharyngeal tonsil, and not a cystic distension of any bursa of this region.

The effects of an operation on mouth-breathing are often immediate; natural respiration is often restored within twenty-four hours. I have seen great improvement after even a small portion of the growth has been removed. There are many cases, however, where it is necessary to constantly remind the patients how they should breathe. Its persistence is often due to a paresis of the dilators of the alæ nasi from want of use.

Mouth-breathing, as a symptom of adenoids, or any condition causing nasal obstruction, produces irritation and congestion of the mucous membrane of the respiratory apparatus from the pharynx to the lungs, on account of the patient's breathing

air of improper temperature, moisture and purity; it lessens the force of respiration, shortens and increases the number of inspirations and expirations, thus producing fatigue of the muscles of respiration and speech; but, on account of the age of most patients, if the amount of growth be excessive or associated with hypertrophy of the faucial tonsils, it produces additional effects upon the developing child. The chest may be compressed, narrow or "pigeon breasted," the alveolar margins of the superior maxillary bones approach each other, the palate is high-arched, the lower jaw drops, and the nose and upper lip have a pinched, drawn-down look, thus causing a facial expression, considered by some due to the presence of adenoids, by others to "enlarged tonsils." I have seen marked deformity of the chest in but two cases, in both of which there were large amounts of adenoids and enormously enlarged tonsils. The facial expression, in a marked degree, is not a constant symptom, and often appears to be hereditary; and, as these growths are so often associated with hypertrophied tonsils, it can scarcely be considered more a sign of one than the other; in fact, it only becomes a symptom of adenoids, or enlarged tonsils, because they are the most usual cause of such obstruction in children. Any growth in the same region would produce the same result, unless so large that it would produce deformities of the bones by direct pressure. Such effects would only be produced by some of the solid tumors, as fibroma. These, however, are rare, and are not found in children, they occur between the fifteenth and twenty-fifth year, usually in young men. I have met but one case of true fibroma in Buffalo. This was a young man twenty-three years of age. I removed the tumor before it had produced any deformity.

The expression of the face in a case of adenoids is so different from that of atrophic rhinitis or congenital syphilis that they could not easily be mistaken. The effects of mouth-breathing upon the sleep of the child are often marked; the patient is restless, snores, wakes up frequently, and the breathing stops or intermits. After the operation is completed the difference is very marked, often so much so that the parents often fear the child is dead, on account of the contrast between the former snoring and the subsequent quiet sleep.

Obstruction of the Eustachian tubes by adenoid growths does not differ materially in its effects upon the hearing and the middle ear, from obstruction due to any other cause in the nose, naso-pharynx or tube itself, consequently a discussion of the symptomatology need not detain us. What is important, however, is the frequency with which these growths produce middle ear disease during childhood, and

the marked improvement in hearing which follows their removal. Fully one-third of the cases which I have treated for adeonid growths had catarrhal or purulent middle ear disease, and as many more complained of slight deafness and tinnitus aurium, and the removal of the growths always improved the hearing, except in a case of deafness following meningitis; of course in purulent otitis, of long standing, the destructive effects of suppuration cannot be overcome; free drainage of the tube must have much to do in stopping the discharge. I shall dismiss this portion of the subject, although very important, by saying that ear complications have been most frequently the symptoms for which patients have sought relief, an unfortunate fact, for had they come under observation earlier the probability is that most of them would not have required the services of an aurist. Much of this is due to the negligence or ignorance of some family physicians, many of whom are constantly telling the parents that the child will outgrow the mouth-breathing, enlarged tonsils, etc.

The above facts show the necessity of examining the naso-pharynx of all children with middle ear disease, even when there is apparently a sufficient cause in an acute rhinitis, etc.; these may be accompanied by an increase in size of the adenoid tissue, possibly acute.

The effects on phonation of the presence of, and the subsequent removal of a tumor of, the naso-pharynx are self-evident; such a growth separates from the rest of the vocal apparatus the resonant cavity of the naso-pharynx and nose; operation restores its continuity. The bad effect of such a mechanical obstruction of phonation is, however, often increased by a paresis or laxity of the velum palate, produced by pressure of the growth against it, or from pressure of enlarged tonsils upon the descending palatine muscles, between which they are situated. Such cases have the voice peculiar to paralysis of the soft palate, and often much patience and training is required before a natural voice is regained. A small amount of adenoids producing no nasal obstruction, and no perceptible effect upon the speaking voice, will often prevent singers from giving the proper resonance and tone to the higher notes. In two cases under my care, of this nature, marked improvement was noticed in the ease with which they produced the higher notes after the growths were removed, and the fatigue following singing disappeared.

One manifestation of nasal obstruction, which is in my experience very often due to adenoids, although I have many times found it in adults with hypertrophic rhinitis, is the effect upon the patient mentally. These patients are listless, their memories are bad; in school children and college students it interferes with their progress, they are com-

pelled to read and re-read their lessons only to forget them, and the slightest mental exertion produces a dull headache which incapacitates them for work. This condition has been named by Guye, of Amsterdam, nasal neurasthenia or aprosexia. When found in children with other symptoms of obstructed nares, open mouth, and, perhaps, some dullness of hearing, it is decidedly to their disadvantage; they appear to be naturally stupid or idiotic, and are often considered so by both parents and teachers. These children take no interest in the play of their companions, and are imposed upon by them. No one can realize the benefit that operating will bring about in these cases who has not watched the course of a few such cases.

Asthma I have not met in children with adenoids. In a young lady of twenty, asthma was apparently benefitted for a time after the removal of a spur from the septum, and adenoids; the benefit, however, was not lasting.

Jacobi has discovered certain forms of chorea minor as occurring in these cases. I have seen some peculiar facial movements produced, as far as I could judge, by the sensation of a foreign body in the throat, but I could not class these with chorea. Are such reflex symptoms not identical with habit-spasm as distinguished from chorea?

From among my cases, in which resolution had been delayed, I shall relate that of the oldest patient on whom I have operated (since writing I operated on a young lady of twenty-five for adenoids):

A countryman, twenty-four years old, consulted me in December for nasal obstruction, with severe headache, dizziness, tinnitus aurium, want of appetite and sleeplessness. On making an examination of the nose anteriorly I found marked deviation of septum to the left, and hypertrophic rhinitis; with the mirror I found posteriorly the left side of the nose filled with mucous polypi, and the vault filled with adenoid growths which obstructed the Eustachian openings and covered the upper half of the septum. Operative treatment of these conditions relieved all the symptoms in a few days, and since that time the patient has remained perfectly well. This, like most of my cases of adenoids, beyond eighteen years old, was complicated with other pathological conditions producing nasal obstruction. I do not wish to draw any conclusions from these facts. It is, however, a fact that in most of the adult patients the adenoids have been associated with obstructions, more anteriorly especially deviations of the septum.

In conclusion, I would suggest the following propositions:

1. Always suspect adenoid vegetations in children under fifteen with nasal obstruction, and do not forget their frequency in cases under twenty.

2. Defective vocal resonance, middle ear disease, and hypertrophied tonsils in children are generally due to, or associated with adenoid growths.

3. Failure to benefit middle ear disease by removing the faucial tonsils is often due to the presence of adenoids.

4. Much chronic ear trouble might be prevented by the early removal of these growths, and our percentage of deaf mutes might be perceptibly diminished by early attention to the condition of the naso-pharynx.

5. While late operation greatly improves the general health, or ear trouble, early operation would obviate many cases of both.

6. The condition of the naso-pharynx should be carefully watched after attacks of diphtheria, scarlet fever, etc.

7. Early recognition of naso-pharyngeal obstruction rests with the family physician, not with the specialist who only meets these cases after the manifestations are marked and more or less serious.

8. Physicians should not encourage the idea, although perfectly true, that the patient will outgrow this trouble, for that only occurs in many cases after much serious harm has been produced by them.

9. Should our school system ever attain an ideal perfection, it can only be when we have a board of educated medical men, as well as a Board of Regents, whose duty it shall be to examine pupils physically with special reference to the preservation of a normal condition of their eyes and ears, their chief means of obtaining ideas. The oculist would correct any errors of vision. The rhinologist or aurist would point out possible causes in the naso-pharynx of defective hearing, listlessness and defective memory, and thereby much of the apparent over-pressure of our educational institutions would be obliterated.

361 Pearl Street.

The Philadelphia County Medical Society has appointed Drs. Parvin, Hirst, Montgomery, Massey, and Baldy, a committee to conduct a series of observations relative to the effect of electricity on fibroid tumors of the uterus. It may be confidently expected that this committee will give the profession some substantial information upon this interesting subject. The Secretary of the Committee, Dr. J. M. Baldy, requests any physician who may have cases suitable, to send them to the Gynecological Out-Patient Department of the Pennsylvania Hospital, Mondays, Wednesdays, or Fridays, at 12 o'clock.

A REPORT OF ONE HUNDRED AND SIXTY ABDOMINAL SECTIONS, WITH SPECIAL REFERENCE TO THE PREVENTION OF UNPLEASANT SEQUELÆ.[1]

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From the time of my first operation in Buffalo, January 4, 1882, to January 4, 1890, a period of eight years, I have opened the abdomen 160 times.

The cases can be classified as follows:

Removal of ovarian tumors, one hundred, with thirteen deaths.
" " fibroid tumors alone, (myomotomy,) six, with one death.
" " uterus for fibroids, (supra-vaginal hysterectomy,) five, with no deaths.
" " diseased tubes and ovaries, fourteen, with one death.
" " diseased ovaries, sixteen, with no deaths.
" " ovaries for uterine fibroids, two, with no deaths.
" " fibro-cyst of uterus, one, recovery.
Exploratory, eight, with no deaths.
For causes outside of the pelvis, eight, with two deaths.

I make a class of cases for objects outside of the pelvis, because they are cases which have only fallen into my hands by accident, or through necessity. I design confining myself strictly to pelvic diseases in women, and therefore separate these cases from the rest, as not belonging strictly to my specialty.

The cases were as follows:

Resection of intestine, one, death.
Obstruction of bowels, one, recovery.
Exploratory, one, death.
Abscess, two, recoveries.
Exploratory, cancer of omentum, one, recovery.
Tumor of abdominal wall, one, recovery.
Tubercular peritonitis, one, recovery.

The deaths were distributed as follows: In the first fifty—eleven, in the second fifty—five, and in the last sixty[2]—one death.

Total deaths, seventeen, or a little over ten per cent.

What stronger argument could there be than these figures to show the advantage of experience. In the first 100, sixteen deaths, and in

1. Read to the Buffalo Medical and Surgical Association, February 11, 1890.
2. This number has now reached seventy seven.

the second 100, so far, one. Still, a careful examination of the cases would show that neither increased experience nor could anything else have saved some of the earlier cases. One died from heart clot on the third day—three from shock, one from long existing chronic peritonitis, a month after operation. Two were far gone in septicemia from suppuration of the cyst. One died from obstruction of the bowels, several weeks after operation. Eight of the seventeen cases died from sepsis, including the two who were septic before operation. It is in the avoidance of this complication that the greatest advance has been made, there having been but two cases of septicemia in the last 120 cases. The single death in the third series of sixty cases was from obstruction of the bowels.

As regards the character of the cases operated on, it will be noticed that as compared with the reports of many other operations, there is a preponderance of operations for tumors (118) and a relatively small percentage of removal of ovaries, or tubes and ovaries.

I have been very conservative in this regard, and have frequently refused to operate on ovaries which I have been fairly importuned to remove, because I saw no good reason either in the symptoms or in the physical evidence of disease. Other cases have been operated on only after years of treatment—often in my own hands—has failed to do the slightest good.

When these cases are properly selected they are among the most satisfactory imaginable. I have followed up all the cases, where it was possible, and in nearly every instance the cure has been complete. To convert a life-long invalid into a healthy, useful member of society is certainly a satisfaction, and such has been the result in many instances. It is not the place and time to detail cases, but some of those on the list are of extreme interest, and will, I hope, form the subject for a paper at some future day.

There is a smaller and decreasing proportion of uterine fibroid tumors operated upon—this in the face of the fact that the results have been exceedingly satisfactory; only one death in thirteen operations involving fibroids. The reason is to be found in the excellent results which have been and are being attained in the treatment of these cases by galvanism. Only occasionally does a case turn up which seems proper for operation.

Now to come to the second part of my paper—the avoidance of unpleasant sequelæ after abdominal section.

Until recently surgeons have been occupied, especially in this country, with the idea that in abdominal surgery the main point is to save the patient's life regardless of after complications.

The wonderful results attained by European surgeons, as compared with those obtained in this country, have forced American surgeons to a higher effort to improve their own records, and in this endeavor other points of nearly as great importance have been well-nigh lost sight of.

Of what advantage is it to remove a woman's tubes and ovaries, or even a tumor which itself may not be endangering life, if, in place of the disease, we leave another condition nearly as bad? Lately, thanks to the perseverance and growing skill of our operators, the statistics of abdominal surgeons in this country have been placed on a par with those of our European compeers. To-day no woman need go to Europe for the sake of improving her chances in such an operation.

It has been found that the bad results formerly obtained were not due to the peculiar nervous condition of our American women, as was often asserted, or to climatic influences, or anything except the want of proper methods. With improvement in these methods and added experience, no reason existed, or exists, why we should not be able to save as many here as in any other part of the world—and this is now abundantly proved by the facts. Laparatomy in America is now, in the hands of our best operators, as safe as any capital operation can be. This much, then, having been accomplished, it is time that we look further, and try to reduce to a minimum those unpleasant sequelæ, which, while not directly endangering the life of the patient, often render life less enjoyable, and sometimes lead to its ultimate unnecessary loss. The note has already been sounded, and the attention of operators has been, of late, frequently called to these unpleasant results.

The first of the sequelæ, to which I will ask your attention, is the production of a ventral hernia. It must be the experience of every one who has often opened the abdomen, to have his patients after a time return, complaining of more or less of a hernial protrusion in the line of the incision. Although it may be supported by a pad, truss, or abdominal bandage, it is certainly a very great annoyance to the patient, and, as I have lately observed, a source of danger. Quite recently I was called to see Mrs. B., with the somewhat startling statement that she had burst open. In June, 1888, I removed from this patient two very large ovarian tumors, which had existed from fifteen to sixteen years. The operation was very severe. The adhesions were extensive and very dense, and the smaller tumor had developed between the folds of the broad ligament. There was a very large oozing surface, and a drainage-tube was put in. She made a good recovery, and in time came back to know what she should do

with a large ventral hernia which had first appeared at the former site of the drainage-tube, and had gradually grown upward, until a large portion of the long scar had been opened up, the skin and peritoneum only remaining intact. The patient had gained in flesh just about the weight of the tumor, viz.: sixty pounds. I advised her to wear an abdominal supporter, and if that did not do, to have the hernia operated on.

On the evening before I was recently called, on removing her supporter, she leaned over to untie her shoes, when the hernial sac ruptured, and like the man in Scripture, all her "bowels gushed out." Fortunately, Dr. Hanley was called, who washed off the protruding intestines with an antiseptic solution and returned them to the abdomen, holding them in place with an antiseptic pad and long adhesive strips. When I saw her in the morning she was perfectly comfortable—no shock or pains, and no fever. I at once removed her to the Hospital and operated. The operation was very long and tedious, as I was obliged to lay open the whole of the old incision, and to include the navel, where a hernial protrusion was beginning. I freshened the edges of the fascia, and, having brought it together with continuous catgut sutures, closed the whole with silver wire. She made a good recovery, though she nearly died from shock after this second operation. She was sixty-three years old. This case proves that a ventral hernia has, added to the risk of strangulation inherent in nearly all hernias, the risk of rupture.

How can this complication be avoided? Our anatomists tell us that the real supporting layer of the abdominal walls is the fascia. If this be in any way opened, the remaining structures of skin, fat, connective tissue and peritoneum, are utterly useless to withstand continuous pressure. Nor is scar tissue, unless it be keloid in its character, any better. Any one who depends on scar tissue as a supporting structure will, in the end, be disappointed. Although firm, and apparently strong, at first, it becomes weaker and softer with age, and finally affords no support at all. There are three ways in which the integrity of the fascia may be interfered with. First, by failure to secure perfect apposition of the edges in closing the wound. Second, by its separation by a drainage-tube, with subsequent cicatrization of the opening left; and, lastly, by a mural abscess forming below it, and opening it by its growth and subsequent rupture. How can this be avoided?

To secure perfect apposition I always make a point of carefully suturing, with continuous catgut sutures, the cut edges of the fascia. In this way, and in this way only, I maintain, can perfect apposition be ensured. In order to prevent with certainty septic infection of the

tissue under the fascia, antiseptic irrigation is necessary. This can only be properly done after the abdominal cavity is closed. I, therefore, as the first step, carefully close the peritoneum with continuous catgut sutures, uniting the whole with silver wire placed entirely through the flaps. I must put in a little aside at this point. How wonderfully our ideas have changed regarding the peritoneum. In lately reading an account of his first successful ovariotomy, by Dr. Miner, I noticed that he attributed his success to the fact that he had not put any of his sutures through the peritoneum.

As to the use of the drainage-tube, I will only say that I use it very little, and then remove it as soon as possible. The dictum of somebody, "When in doubt—drain," has, I am sure, done more harm than good. I would modify the rule in this way: "When in doubt, pack the pelvis with sponges and wait." In this way drainage may often be dispensed with, and I have completely closed the cavity after packing and waiting with what seemed, at first, a very large, freely oozing surface. By the method of withholding fluids from the stomach after the operation, the peritoneum is forced, or, rather, stimulated to take up any fluid which may be effused. This accomplishes the same thing as drainage, and depending on it, and on previous packing, I have often left out the drainage-tube where others, doubtless, would have drained. I have never regretted not having drained. I have several times, been sorry that I had done it, and this brings me to my second point.

The production of a fistula or sinus, leading down deeply into the abdominal cavity, is a source of great annoyance to the patient, and is not without its dangers. These sinuses form in two ways. Either they result from an abscess which has gathered deeply within the pelvis and broken through the abdominal wound—as once happened to me—or they come through the use of a drainage-tube.

To prevent them, careful antisepsis on the one hand, and sparing use of the drain on the other, are necessary. But even if formed they usually heal unless they have some foreign substance at the bottom to present. This foreign body is generally a silk ligature. It was an experience of this kind—a fistula, which has lasted four years, and which has resisted all attempts to heal it, and which is doubtless kept open by a silk ligature at the bottom—which caused me to give up silk.

I have used no silk in the abdomen for the last 125 cases, using only catgut, which I prepare myself. The objections usually urged against catgut, I consider, groundless. I have left over 300 pieces of catgut within the abdomen and have never seen the slightest harm come from it.

For the pedicle I use No. 7, and smaller sizes for sewing and for adhesions. The catgut is prepared with ether to remove the oil. Then it is placed in a 1-500 sublimate solution for twenty-four hours, and later two or three days in a ten per cent. solution of juniper oil in alcohol, and is then preserved in alcohol until used.

Prepared in this way it is not very readily absorbed, is perfectly aseptic and reliable, and shrinks one-tenth of its length when wet with water. No. 7 will stand any strain which may be put on it.

I generally use the Staffordshire knot, putting the ends around the second time. The danger of secondary hemorrhage is imaginary. It is only necessary that a ligature should hold two or three days to ensure against secondary hemorrhage, as is conclusively proved by the clamp method in vaginal hysterectomy. When the clamp is taken off in thirty-six or forty-eight hours no hemorrhage results.

There is no proof that I have ever seen, that silk is ever absorbed. I have taken a piece out of the abdomen after it had been there a year. If it becomes infected at the bottom of a sinus it must be removed before the sinus will close, and to remove it, unless it comes away itself, is a matter of great difficulty and is often impossible.

I protest, then, most strongly against the discredit which is being thrown on catgut. If properly prepared, and you can only be sure of its proper preparation by doing it yourself, it is entirely without danger. The only case of secondary hemorrhage I ever met with, was from the slipping of a silk ligature, and never have I seen any harm which I could attribute to catgut.

I have now in the hospital a case not included in this report, in which it is the greatest satisfaction to me that I used catgut. I drained, and am sorry for it. I took out the tube in thirty hours, and when on the eighth day I went to remove the stitches, I found the hole where the tube had been open, and pus welling from it. The patient is doing well, but if I felt that there was a piece of infected silk at the bottom of that sinus, I should despair of ever seeing it close.[1]

I know of no more annoying complication of a laparatomy, or in fact of any gynecological operation, than an attack of cystitis. It sticketh closer than a brother, and often lasts to torment the patient for weeks after she is otherwise well. This trouble always arises from the use of a catheter, the instrument conveying septic matter from the outside, which sets up fermentation within, and consequent irritation. In order to prevent this infection of the bladder, I have recently adopted a plan, proposed in Germany I think, of using glass tubes for catheters, and having a little boric acid solution injected into the

1. Two knots of catgut came out of this sinus, after which it readily closed.

bladder each time before the catheter is withdrawn. In this way, it is claimed all danger of infection is done away with. This is a little point, but it is of great importance to the future comfort and welfare of the patient. The patient is also encouraged to get along without a catheter as soon as possible.

There are other sequelæ of laparatomy which are not so easily avoided. It has been my misfortune to see three of my patients become insane following the operation. Two of these cases were large ovarian tumors, while the third, after removal of diseased tubes and ovaries, recovered. I know of no way of avoiding this catastrophy. Still it must not be forgotten and must be thought of in estimating the chances, as a possible result in each case.

31 ALLEN STREET.

Society Proceedings.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Reported by W. H. BERGTOLD, M D., Secretary.

The postponed monthly meeting was held on Tuseday evening, Feb. 11th, at nine o'clock, in the Library of the Polytechnic Institute, No. 9 West Mohawk street.

The president, Dr. A. A. HUBBELL, in the chair.

Dr. W. S. RENNER read a paper entitled, Adenoid Vegetations of the Naso-Pharynx. See page 523.

Dr. M. D. MANN read next, A Report of 160 Abdominal Sections, with Special Reference to the Prevention of Unpleasant Sequelæ. See page 535.

DISCUSSION.

Dr. HERMAN MYNTER, in relation to Dr. Mann's paper, said that the question of the occurrence of ventral herniæ after hernia operations had perplexed him not a little. Laterally he has had four cases where, after operation on a hernia, exsecting the sac, sewing with catgut and silver, the patients returned later with ventral hernias. He thinks that silver wire does not do well here, just as in inguinal hernia. He now discards the use of McEwan's operation, and uses, instead, McBurney's method, that of removing the sac entirely, and allowing the wound to fill by granulation. He asked how many of Dr. Mann's cases had developed ventral hernia? What does he do to prevent this complication, and how does he treat them?

Dr. H. E. Hayd thought that the light death-rate in the essayist's last fifty cases, as compared with it in the first fifty, could be, perhaps, taken as an index of what experience will do for an operator's results. He asked the writer whether he would operate so often, or on the same cases to-day, as he did several years ago? Dr. Hayd spoke of Apostoli's method of treating fibroids, etc., and maintained that it would, in many cases, supplant laparatomy.

Dr. H. D. Ingraham asked Dr. Mann if he did not believe that one could use silk just as well as gut, if it were properly prepared. He also asked how long Dr. Mann allowed the sponges to remain in the abdomen, when used to check oozing.

Dr. M. Hartwig believed that drainage is of immense value. It is chosen through the abdominal walls, in laparatomy, because when conducted by way of the vagina it almost surely involved septicemia. Drainage *per vaginam* gives us the benefit of gravity, and, furthermore, by only opening into the *cul-de-sac*, we, in a manner, do not meddle with the major part of the peritoneal sac; this way, if properly conducted, is exceedingly useful, and ought to be perfected, if possible. He believes that ventral hernia can be avoided by careful apposition, and approximation of the abdominal walls and their different layers. Silk has the advantage that it can be made aseptic so quickly and easily.

Dr. Lucien Howe said that he one time used silk when advancing an ocular muscle, and it had demonstrated very completely how long silk will remain without undergoing change. In this case he was able to see and feel the silk suture for over six months. He thinks that the methods employed by Dr. Renner are very satisfactory, and have been of much benefit in several cases which he had referred to him.

Dr. M. D. Mann, in closing the discussion, and in reply, first to Dr. Mynter, said that he could at the moment recall four cases which presented afterward with ventral hernias. He knew of no case where the fascia had been stitched that this occurred. He closes the abdominal incision in the following way: First, the required number of silver wire sutures are inserted through the entire thickness of the wall, twisted and laid aside; then the various layers, as peritoneum, etc., are carefully adjusted, one edge to its fellow on the opposite side by continuous gut stitches, and finally the silver sutures are tightened firmly so as to relieve all tension from the gut sutures. In reply to Dr. Hayd, he said that on some of the cases of fibroids he would not now to-day operate, because electrolysis gives such good results, but in the cases of tube and ovary disease, any amount of electricity would not produce a normal condition, and that he would still operate in such

cases. Dr. Ingraham was correct in saying that silk, if properly prepared, would cause no suppuration, but silk, if it happens to become situated at the bottom of a sinus, would never disappear, and it would cause such an opening to remain patulous; whereas catgut, if similarly situated, would, at the least, rot out, and not act as the continuing cause of the sinus. He leaves sponges, for the control of oozing, ten to fifteen minutes, and, if necessary, longer, though this has never been necessary. Personally, he is not satisfied with vaginal drainage, and believes that Sims gave it up after a thorough trial.

The President appointed Drs. Hayd, Samo and Coakley a committee to draft resolutions on the death of Dr. P. H. Strong.

The essayists for the next meeting were announced as Dr. H. E. Hayd, subject, Electricity in Gynecological Practice, and Dr. Roswell Park, subject, Surgery of the Alimentary Canal, with Demonstrations.

THE BUFFALO PATHOLOGICAL SOCIETY.

Reported by EUGENE A. SMITH, M. D., *Secretary.*

REGULAR meeting, February 21, 1890, the president, Dr. DELANCEY ROCHESTER, in the chair.

The subject for the evening was Tumor Albus, and Dr. S. Y. HOWELL read the first paper on

PATHOGENESIS AND MORBID ANATOMY.

From the earliest times down to the present, a very fair share of medical literature has been devoted to the consideration of a chronic form of disease, attacking chiefly the diarthrodial or movable joints, and deriving its importance from the fact that the most distressing deformities and even a lingering, miserable death were but too frequently its ultimate outcome. Children were found to be the favored victims, though even the aged were not exempt; and the hip and knee were the articulations most often involved.

A further peculiarity of the disease rested in the fact that a joint thus affected exhibited but in part the symptoms which were deemed cardinal in inflammatory conditions. Instead of being hot and red, the joint was cool, pale, smooth and shiny; swelling, however, was present, together, perhaps, with impairment of function and pain. We cannot wonder, then, that as early as 1734, Wisemann first applied to this condition the simple but expressive term, "Tumor Albus," or "White Swelling," the tumeur blanche of the French, with which we are all so familiar. As used by Wisemann, however, the name of the disease referred merely to its surface indications, but, as careful dis-

sections multiplied, as the microscope revealed histological details, and as pathology advanced, many new terms were employed. Indeed, the nomenclature of this form of arthritis affords one a very fair picture of the evolution of modern medicine from its primitive simplicity. Thus, Sir. Benj. Brodie replaced "tumor albus" with "pulypy degeneration of the synovial membrane;" Barwell, with "strumous synovitis or arthritis;" Velpeau, Bonnet and Richet, with "tumeur fongeuse;" Billroth and Volkmann, with "Tuberculöse Gelenkentzündung," or "fungous arthritis;" Hütter, with "synovitis hyperpatica fungosa and pannosa." Among other synonyms we have tuberculous synovitis, granuliorinde tuberculöse Gelenkentzünding, pyarthrosis, gliedschwamm, ungus farticuli, empyema articulorum, gelatinous arthritis, and cold abscess of joint.

In pre-antiseptic days, before the dissections on the living subject (*in vivo*) which have now become an old story to us all, were possible, the material for the study of this disease was limited. Structures afforded by post-mortems in subjects who had succumbed to tuberculosis, amyloid changes, or marasmus, together with parts removed by amputation or possibly resections, in the latest stages of the malady, were alone available. It is no wonder, then, that tumor albus was formerly believed to be a diffused process, due to diffuse inflammations, gradually progressing, and leading ultimately, in the worst cases, to suppuration and destruction of joints. In these cases the synovial membrane and adjacent capsule were always found markedly diseased. The inner surface of the joint had been converted into a peculiar, thick, jelly-like, "fungous" layer of granulation tissue, outside of which lay an extensive stratum of gelatinous, edematous, or more fibrous structures, which, especially in the knee, hip and elbow, involved even the skin, thus completely enveloping the joint. Often, however, when the soft parts were thus extensively disorganized the articular cartilages were found to be little if at all affected, a condition of affairs which justified the commonly accepted belief, that in the great majority of cases the disease began in the synovial lining. Even should the cartilages have been destroyed, and the joint ends of the bones more or less disorganized, it was very natural to regard this as secondary to the synovial inflammation and suppuration. The cartilage, bathed in and absorbing the purulent synovial exudates, broke down. Or the granulation tissue advancing from the edges of the cartilage over its surface and remaining in contact with or penetrating it, caused its erosion, perforation, and final reversion into a soft, cellular tissue of a more immature type. The subjacent bone next yielded to the progress of the triumphant granulation tissue and a fungous caries was the result. All these destruc-

tive changes had been furthered by the pressure of the joint upon the softened cartilages and inflamed bone.

That the synovial lining of joints was the tissue in which the successive changes resulting in tumor albus began, was apparently supported by other observations. While the etiological relationship of scrofula and tuberculosis to this disease has long been recognized, the existence of a specific virus even though suspected had never been demonstrated. Besides, experience had also shown that almost all the diseases now classed as infectious might be complicated with diffuse inflammation of joints, beginning in the synovial membrane. Pyemia, septicemia, puerperal fever, syphilis, glanders, dysentery, gonorrhea, malaria, whooping cough, epidemic parotitis (mumps), erysipelas, diphtheria, cerebro-spinal meningitis, typhoid and typhus fevers, small-pox, measles and scarlatina—all these were at times attended with or followed by acute synovitis of one or more joints. That the joint complication was an evidence of metastasis, was as little known as were the bacterial agents to which such metastatic inflammations are now ascribed.

Although professional opinion was thus overwhelmingly in favor of the view that fungus arthritis was almost invariably the outcome of a primary synovitis, it was still admitted that occasionally the disease began in bone. The whole epiphysis was at times found to be red and soft; or, again, merely the layers immediately beneath the cartilaginous covering of the joint-surface were thus diseased, the medullary substance being changed into granulation tissue. The cartilage was found more or less eroded, raised, or even perforated by the growing granulations beneath it—conditions which indicated a primary diffuse osteomyelitis extending toward the joint-cavity. This doubt concerning the histogenesis of fungous joint disease, however, is gradually being cleared up by the labors of the modern surgeon and pathologist. Operative interference is resorted to early in joint-troubles, thanks to the confidence inspired by the results of antiseptic precautions, and exploratory dissections *in vivo* are made with comparative impunity. Instead of thoroughly disorganized joints, which were well-nigh the sole available material for the instruction of the surgeon formerly, the latter may now search for and remove the diseased tissues ere the work of destruction has gained great headway. The effect of these opportunities is evidenced by the altered views of to-day. While Billroth claims that fungous disease of the joints attacks primarily the synovial membrane in more than fifty per cent. of the cases, Müller has found in examining 232 preparations, mainly from resections, that only forty-six were of synovial origin, 158 starting in the bony structures. König

reports forty-seven out of seventy-one cases as beginning in the bones. The most radical champion of the osseous origin of tumor albus, however, was found in the person of the brilliant Volkmann, whose death we've so recently been called upon to mourn. It was my privilege to witness the work of this talented man almost daily during a period of four months; and if my statements savor strongly of his teachings, I trust that I may be pardoned, since repeated demonstrations have convinced me of their truth. According to Volkmann, the diffuse degenerative changes which we've been considering are *secondary* phenomena. The fungous arthritis begins in *diseased foci*, and it is to the invasion of the joint-cavity by the liquefying contents of these focal points that the epiphyseal and synovial inflammations are due. The danger to the joint, then, becomes imminent when softening of these foci ensues. The foci are generally small, not often exceeding a cherry-stone or hazel-nut in size. They are located in or on the bone, frequently at some distance from the articular cartilage; indeed, they may lie in the shaft of the bone, outside of the epiphyseal cartilage. Such a primary focus represents a very circumscribed cheesy or tubercular ostitis or osteomyelitis, and the subsequent history of the case depends largely upon the fate of this infectious centre. Should it become capsulated, shrink and become absorbed, or should its fluid contents discharge through the skin outside of the joint, specific infection of the latter is often avoided. During this prodromal stage, however, the joint does not always escape. The focal disturbances may be followed by or attended with congestion of the periosteum, synovial membrane, and the other peri-articular tissues. Reactive inflammation ensues; the joint appears swollen and doughy; considerable exudation may occur in the joint-cavity; the synovial membrane is congested, swollen, and assumes the character of dense granulation tissue; while migrated leucocytes may occasion a slight opacity of the increased synovial fluid. The joint-cavity may become obliterated, to a greater or less extent and, in case the irritation is very marked, muscular contraction may ensue and a clinical picture of fungous arthritis present itself, though the process is thus far of an innocent character.

Such changes, severe as they are, may prove conservative. The partial obliteration of the joint and the diminished synovial surface render their subsequent specific infection by the contents of the primary focus less serious. This is often shown in the knee, especially in children. There, when infection does ensue, one encounters those total suppurations of the joint which distend the capsule with pus, and those carious denudations of the joint-surfaces, much less often than

in the hip. The process is more of a purulent character in the hip, of a fungous character in the knee.

Hütter, however, has long since shown that similar processes may obtain in the hip-joint. Central foci in the neck, or even in the trochanter, lead *first* to obliteration of the joint-cavity. Then these foci extend, destroying the epiphyseal cartilage; the head separates from the neck, and remains firmly grown to the acetabulum; while the shaft is displaced backward and upward upon the ilium, as occurs in fracture of the neck.

Let us now devote a moment to the focal centres of infection.

In resecting a joint, one recognizes such a focus as a circumscribed, yellowish spot in the spongy tissue, which is anemic, dry, opaque, and slightly cheesy in character. The bone-tissue about the focus is often, but by no means always, of a lively red color, and softened by reactive inflammation; while within the cheesy part the spongy tissue exhibits its normal firmness and density, or even a well-marked sclerosis. Immediately surrounding the yellowish focus the naked eye often detects a number of gray miliary and submiliary granules, which are undoubtedly tubercles. Or, the focus is wholly separated from its environment and forms a small sequestrum, which is entirely surrounded by a thin pale-gray or pale-violet, jelly-like zone of granulation tissue, thickly infiltrated with tubercles.

When of a certain age these tubercles are circumscribed, roundish formations with the familiar reticulum, giant cells toward the centre, the next zone of epithelioid cells, and the whole enveloped by a zone of lymphoid elements. Vessels are absent, and hence proneness to undergo fatty metamorphosis. Usually these tubercular foci are single, or several may occur in the same epiphysis. It is comparatively seldom, however, that more than one of the bones entering into the formation of a joint is thus primarily affected.

The favorite sites of the foci in bone are the olecranon, both condyles of the humerus, calcaneus, internal condyle and neck of femur,—the latter much more frequently so than the head proper. The acetabulum is not infrequently the site of this focal disease (acetabular coxitis).

Contact with the liquid, cheesy masses and the pus, containing the tubercular virus, is always followed by an eruption of miliary tubercles.

In the granulations about the small sequestrum, in the walls of the abscesses which form underneath the periosteum and between the muscles, in the synovial membrane and its communicating cavities, in the fistulous channels through which the pus is evacuated—every-

where, miliary tubercles point the way taken by the specific and deadly microbe. Wherever these secondary granulomata undergo cheesy metamorphosis and disintegrate, the granular debris constitutes new infectious material. These facts account for the obstinacy of the inflammation, its chronicity, and its recurrence after apparent healing or latency.

The location of the focus determines largely the secondary infection of the joint by the pus. The nearer to the joint-cartilage, the capsular insertion, and the synovial pockets communicating with the joint, the easier becomes the invasion of the latter. The attachment of the capsular ligament has an important bearing in this respect. When it is far from the articular surface, as in the upper end of the femur, the probability of a focus discharging its contents within the joint cavity is much greater than in the case of the knee, for example, where the capsular attachment is just beyond the articular surfaces. When intra-articular rupture does occur (and it is well to remember that this is the rule rather than the exception) a diffuse tubercular synovitis is excited, which extends, in the manner already described, to the cartilage and bone; and, sometimes by suppuration, sometimes by the formation of fungous granulation tissue, alters and destroys the whole joint apparatus.

Tubercles are now present everywhere in the diseased joint; and the fluid containing the products of their disintegration may break through the capsule, and, gravitating along the intermuscular planes and beneath the skin, form tubercular abscesses of variable sizes, or discharge externally.

When operating, the fistulous tracts connecting these various purulent deposits can generally be found. Spontaneous healing may ensue at any stage of the disease. Should this take place before the cartilages are much altered, the usefulness of the joint may be quite restored. After the partial or complete destruction of the cartilage, however, perfect motion is no longer to be looked for, more or less anchylosis being present.

In the late stages, when recovery ensues, the greatest amount of permanent injury remains. The destruction of the joint-surfaces permits luxation to occur, which the muscular contraction tends to confirm and intensify. The granulation tissue ceases to destroy and attempts the work of repair by forming bands of dense cicatricial tissue between the joint surfaces. The resulting immobility is intensified by a similar connective tissue formation in the capsular and other ligamentous structures. Such a fibrous anchylosis may be succeeded by bony anchylosis, in which case the cicatricial bands undergo ossification.

The fact that the granulomata found in tumor albus are genuine tubercles has been abundantly demonstrated by the most competent authorities. Tubercle bacilli, though few in number and difficult to find, are oftenest met with in the giant-cells, though occurring in the other cells of the tubercle as well. They are found more easily in the early stages of the disease.

1. R. Koch found the bacilli in two out of four cases of this disease. Schuchardt and Krause examined some forty specimens, obtained in the course of a few weeks from cases of fungous arthritis in Prof. Volkmann's Clinic Halle, and found the bacilli in all. The examination of twenty sections taken from the wall of a cold abscess resulted in the discovery of but two bacilli. Kanzler reports the finding of the germs in eight out of fifteen specimens of bones and joints. Castro Soffia, who examined many specimens of tuberculosis in bone, always found the bacilli.

2. A second proof of this point rests in the fact that in the majority of cases of tumor albus a distinct family history of tubercular or strumous disease can be elicited.

3. The proposition has been confirmed by experimental pathogenesis.

Schüller, of Greifswald, produced tuberculosis in dogs and guinea-pigs by injecting phthisical sputa into their lungs, and by forcing them to inhale solutions of sputum and tubercular detritus half an hour daily for several days. Subsequently, by wrenching and contusing the knee joint he succeeded in developing in most of the animals a fungous synovitis, sometimes attended with suppuration. Healthy animals, when subjected to the same lesions, did not develop the disease. Hütter showed that injections of tubercular matter (sputum, etc.) into the joints of animals caused this "fungous hyperplastic synovitis," as he terms it, as well as the fact that from this primary focus general tuberculosis may follow.

The insertion of fragments of granulation tissue from tumor albus of the human being into the interior chamber of a rabbit's eye produced tuberculosis of choroid, and, later, general tuberculosis. König caused general tuberculosis by the introduction of synovial fungosities into the general circulation of animals. Barwell doesn't agree with Schüller's conclusions, though the grounds of his unbelief are not convincing.

Very interesting experiments have been made by Müller, with a view of demonstrating the channel of infection.

1. Tubercular matter was injected into the femoral arteries of sixteen rabbits, without result.

2. Again, the injections were made into the crural arteries of ten rabbits (the nutrient arteries are branches of the crural), and tuberculosis of bone developed in some.

3. Finally, the injections were made into the nutrient arteries themselves. Twenty goats, besides dogs and sheep, were operated upon, and, later, most of the former exhibited typical tubercular foci in the epiphyses. One young goat began to limp at the end of four months, and in another in nine months his knee joint was in a condition of typical fungous inflammation. The joint disease was found to have been developed from a primary cheesy focus in the head of the bone, the focus containing a wedge-shaped bony sequestrum.

Sternberg, also, failed to produce tuberculosis in animals by injecting inorganic material into their circulation.

Such studies would seem to afford conclusive proof of the relationship of tuberculosis and tumor albus.

"But," one is tempted to say, "if *tumor albus* is the result of the irritating action of the *bacillus tuberculosis* upon the tissues in and about the joint, why is the disease not invariably fatal? Why do not the bacillar microbes emigrate, invade the membranes of the brain, the lungs, or the intestinal tract, and there do the deadly work which the experience of every physician teaches him they are capable of doing?" Well, that such unfortunate cases do occur is well known, but luckily the percentage is not so great as experiments of Villemin upon the lower animals would lead one to fear.

While the human being is easily inoculated with the tubercular virus, the germs obtain a general foothold only under circumstances exceptionally favorable.

We are all familiar with the appearance of those large masses which appear so frequently in the cervical region of so-called strumous individuals, and represent aggregations of enlarged, cheesy lymph-nodes. We know from personal experience, perhaps, that such subjects may attain an advanced age, whether these soft, cheesy deposits discharge externally, gravitate through the inter-muscular planes of the neck to the subcutaneous tissue of the sternal region, or become absorbed. And yet the fact that the *bacillus tuberculosis* is the cause of this disease also has been demonstrated by Schüppel and many others. The germs are found in the diseased glands.

In like manner severe *scrofulous ozena*, many rectal fistulæ, certain marked ulcerations in the pharynx and soft palate, as well as some ulcerative conditions of the skin allied to lupus, are due to miliary tuberculosis; but the patients do not necessarily perish from the generalization of the specific disease.

A diminished vitality of the tissues is probably a prerequisite condition whether due to traumatism or not. Then we can think of the cells as unable to ward off the blows of the vegetable parasite, either from individual weakness or from the fact that the excretions of normal cell-metabolism are changed and no longer antagonize the growth of the microbe.

Statistics, however, prove that from the time the tubercular bacilli effect a lodgment in the system, the danger-signal is constantly flying. Such people are "suspects," as Volkmann has put it. The initial ravages of the invasion may be apparently effaced and the patient fully restored; yet it appears probable that some germs are still lurking in the old focus, are in a resting state, and only await a favorable accident that they may renew their work of destruction.

Esmarch, König, Caumont, and others, are agreed that amputation and resection, though beneficial in their immediate results, offer but little in the way of eradicating the tubercular taint, fifty per cent. and over of their cases dying subsequently from the effects of the disseminated tubercular virus.

Conclusions:

1. Tumor albus is purely the result of local tuberculosis of joints.

2. The bacilli lodge in the majority of cases in the extremities of the bones and usually on the distal side of the epiphyseal cartilage; though the synovial membrane may be the point of primary infection.

3. The primary osseous foci may remain latent for years, or may never infect the adjacent joint, but these are exceptional cases. The danger of infection increases with the softening of the cheesy focal deposits.

4. Preceding the specific infection of the joint, a diffuse arthritis of an innocent type may ensue from the mere proximity of the focal disturbances.

5. Healing may ensue at any stage; but, while joint-functions may be restored, anchylosis with or without luxation usually takes place.

6. In a large number of cases, systemic infection follows tumor albus, whether operative treatment be resorted to or not.

Dr. E. A. Smith read the second paper, on the

SYMPTOMATOLOGY AND DIAGNOSIS OF TUMOR ALBUS.

It is extremely difficult to discuss the symptomatology and diagnosis of tumor albus, without treading occasionally upon ground so ably covered by the preceding speaker. Indeed, it may be said, that to leave out all discussion of a pathological nature, would render my

part of this evening's proceedings a mere enumeration of points in differential diagnosis.

At the outset, it is understood that modern pathology applies the name tumor albus, or in common parlance, "white swelling," to all chronic joint inflammations due to tubercular infection, and thus tumor albus becomes synonymous with strumous or tubercular arthritis. In the next place a close study of joints attacked by tubercular inflammation reveals a common pathological process, varying only with the tissue first involved and the character of the destructive change. There is, in consequence, a common symptomatology, modified only by the anatomical peculiarities of the joint attacked and the stage of the pathological process. Hip-joint disease, for instance, is still treated by many writers as a distinct affection, although it is only a tumor albus obtaining its importance from its frequency, and the special symptoms due to the situation and functions of the joint.

Avoiding, then, an enumeration of the symptoms connected with each joint, we can proceed to a more philosophical study of them, as they are found in tubercular inflammations of the larger joints, reserving a few words, suited to the limited time allowed each speaker, for special reference to certain joints.

In attempting to classify cases as to their widely-varying clinical features, it is difficult to do so on the basis of their pathology as regards the point of origin and progress of the affection. Modern authors admit that tubercular arthritis starts most often as an ostitis, but they are also agreed that in the early stages, a differential diagnosis between tubercular arthritis starting in the synovial membrane and the same inflammation starting in bone is usually impossible.

There is, however, a notable difference in the clinical course of cases, depending upon the early or late occurrence of suppuration, and we may, with advantage, first dispose of the symptomatology of tumor albus up to the time of distinct evidence of suppuration. During this time the pathological process is in the inflammatory stage, and the cases are such as are seen in private practice, as compared to older cases with fistulæ, sinuses, and other unmistakable evidence of marked destructive changes which present themselves at hospital clinics for operations of last resort.

Leaving for later discussion the significance of the constitutional condition of the patient, we find in cases of tumor albus a history of joint trouble of long standing, with comparatively few subjective symptoms, but many pronounced objective evidences of disease, properly called signs.

Taking up the symptoms first, pain is, perhaps, most prominent. It

varies in severity with the amount of inflammation and the character of the patient, but early in the disease it is always worse upon moving the joint after a period of rest. Upon rising in the morning, the joint is more tender than after some use. Later, when congestion gives place to inflammation and exudation, the pain is more pronounced when the joint is in use. A sharp, shooting pain, awakening the patient when asleep, or suddenly occurring when the affected limb is at rest, takes the name of "starting pain." Early in the disease sleeping children frequently wake with a cry, or, as is often noticed, only partly awaken, scream sharply, and sink off into deep sleep again. This is due to the fact that during sleep the muscles are relieved, and upon some slight motion of the inflamed structure in the articulation, a reflex spasm is produced which violently moves the sensitive parts and causes sudden agonizing pain. Another peculiarity of pain in tumor albus, is the so-called "sympathetic" or referred pain, notably a feature of hip-joint disease. Owing to irritation by the pathological process in the course of a nerve, painful sensations are referred to its terminal filaments. Thus, in hip-joint disease, pains about the inner side of the knee are symptomatic of irritation of the obturator nerve in the neighborhood of the hip-joint. In children it is well to remember that pain may be denied when actually felt from fear of some operative procedure, but a sudden jar or wrench of the affected joint will elicit an instinctive cry. When a patient complains of a dull, constant, boring pain with occasional exacerbation, and there exist points of extreme tenderness upon pressure over the articular ends of the bones, it is strong proof that the disease started in the bone ends.

With the early twinges of pain the patient learns to guard the joint against full extension or flexion, and this soon becoming automatic, produces a slight stiffness of the joint in the upper extremity, and a limp in the lower. As the inflammation progresses this pseudo-anchylosis does also, and the joint tends more and more to remain in the position of maximum relaxation midway between flexion and extension. Up to the time when degeneration changes become marked, this pseudo-anchylosis is merely reflex muscular spasm, and under anesthesia free movement of the joint can be obtained. While the function of the joint is thus slowly impaired, there is also a loss of muscular power owing to lack of exercise, and the patient soon begins to notice a wasting of the muscles of the affected limb.

In the course of time, the pathological process carries the disease further, and these subjective evidences of trouble give place to distinct objective features. An examination usually discloses a notable increase of temperature in the affected joint; tenderness on pressure, and pain

on motion are pronounced, and the function of the joint is steadily more impaired. In the lower extremity limping and stiffness have, perhaps, increased to inability to support the body, and a cane or crutch is necessary. In the upper extremity the arm is kept at rest in its semiflexed position, and the patient uses the other arm and hand in all movements, including the commonest motions, such as carrying food to the mouth.

Examination also reveals the joint seemingly much enlarged, but careful measuring in many cases shows the enlargement to be apparent and not real, especially in those cases which originate in the bone ends, and where the consequent synovitis and effusion are minor features. The joint appears relatively large when compared with its fellow, because the bony parts composing it maintain their usual size, while muscular atrophy may have so diminished the limb above and below the joint, that the measurements are one to three inches less than in the healthy limb.

But when the synovitis is primary or has become pronounced secondary to osseous trouble, the joint itself enlarges. Synovial effusion first uniformly fills the capsule, obliterating the normal depressions, and then distends it. In the knee-joint, for instance, the patella is floated and the swelling has a distinctive quadrilateral form. Here the tape line shows marked enlargement of the joint, and palpation reveals the presence of fluid; or, if the condition in the joint is rather pulpy degeneration than serious effusion, the boggy feel of false fluctuation is present.

In either class of cases the patient is anemic, and the apparent or real swelling is white and shiny, from which appearance the disease received its name, tumor albus. The swelling is also tense and smooth, depending on the amount of effusion, and the superficial veins are large and prominent, due to the obstruction to the return flow in the deeper vessels. By this time the inflammatory action has infiltrated and softened the joint, capsule, and ligaments, and, if the articulating bones are grasped and moved upon each other, unnatural motions can be produced, notably a "lateral motion" of ginglymoid joints. Lastly, in the picture of severe tumor albus, before the advent of suppurative changes, the tonic muscular spasm fixing the articulation may be replaced by neoplastic formation of fibrous bands, which cause a more or less complete anchylosis that anesthesia cannot relax.

The pathological changes which produce the foregoing symptoms and signs may consume several months to one or more years. On the other hand the disease may proceed rapidly to suppuration and com-

plete disorganization of the joint, or reach the same end by long continued suppuration locally, and the development of hectic fever and septicemia as constitutional conditions. The origin and special significance of suppuration must be discussed by another essayist, and it must suffice here to say that its occurrence heralds the onset and accompanies the course of progressive destruction. Its early detection, therefore, is important as regards prognosis and treatment.

With the suppurative process, lymphangitis and glandular enlargement in the neighborhood of the affected joint become more noticeable than in tumor albus before suppuration, in which latter class of cases lymphadenitis, being merely an evidence of excess of inflammatory absorption, may be so slight that glandular enlargement cannot be detected. The simplest cases of tumor albus with suppuration are those in which the inflammatory exudate breaks down in the particular structures. Here the signs and symptoms of acute or cold abscess are added to the features of strumous arthritis. Pus formation in the bone ends may continue some time before detection. Chills and rise of temperature, especially after an exacerbation of inflammation, excite suspicion, and this becomes certainty if over the bone ends an excessively tender spot, with fluctuation, can be found. If the purulent degeneration begins in the joint cavity, a condition of pyarthrosis soon develops, and, if the process is acute, fluctuation, chills and fever make possible an easy diagnosis of suppurative degeneration. When, however, the granulation tissue is abundant, absorption slow, and there may be no chill nor marked fever, still the temperature may be noticed to ascend each evening one or two degrees, and to fall to normal again each morning. Here the introduction of an aspirating needle may give positive assurance of the presence of pus.

There are still many cases in which suppuration is slow, with a tendency to caseation, in other words, lingering cases accompanied by formation of cold abscesses. They may remain stationary for long periods, or caseation may be followed by firm fibrous or bony anchylosis and subsidence of the virulent powers of the tubercular bacillus. In these cases there are no new symptoms, but an amelioration of those already described, excepting anchylosis, which remains as an evidence of what has taken place. These slow cases, however, are liable to awaken to new activity, and then they follow the road which most of these lingering cases do, and ultimately the pus burrows to the surface, usually in the close neighborhood of the joint, but sometimes far removed.

This pathological departure gives origin to the easily recognized fistulous tracks leading to the diseased joint, or to sinus tracks leading

to carious bone, and the surgeon takes advantage of these well-known signs of tumor albus to probe the seat of disease and verify by touch what his judgment has already diagnosticated. With the disorganized tissues thus within reach, he may push his inquiry further and microscopically examine for the inflammatory neoplasia due to and containing the tubercle bacillus.

Cases of tubercular arthritis which have reached this point are the ones usually presented at hospital clinics. Corresponding to their advanced destructive changes are exaggeration of the symptoms and signs already mentioned. Function is lost, or nearly so ; the form of the joint is still more abnormal, even to the extent of subluxation or complete dislocation ; lateral motion is easily obtained, unless bony anchylosis has developed ; and, with lateral motion, is felt the peculiar grating arising from rubbing of exposed roughened bone ends ; finally, the joint is fixed in a more or less flexed position, depending on its position and the strength of the flexor muscles which influence it.

In conclusion, How are the symptoms thus spoken of in general to be applied in detail to make a diagnosis ? The hip and knee joints, owing to their size and importance, have some symptoms peculiar to themselves when affected by tubercular inflammation, but a knowledge of the common features of tumor albus will enable the surgeon to decide a question of differential diagnosis in any joint. Few cases are so typical as to present all the features mentioned, but in a case suspected to be tubercular arthritis, the presence of some of the beforementioned symptoms and signs, with the additional features to be elicited by the judicious use of tape line, aspirating needle, probe and microscope, render a diagnosis reasonably sure. A study of etiology, covering family history, traumatic influence, age of patient, duration of the disease, and coincident presence of systemic tuberculosis, may fix the diagnosis beyond any reasonable doubt.

There is, besides, the question of differential diagnosis between tumor albus starting in the bone and that starting in the synovial membrane. Upon this differential diagnosis in the early stages depends the prognosis as to the necessity for arthrectomy or resection, or the combination of both operations, although it may be said that operative treatment usually begins as an exploratory incision, and progresses according to the nature of the pathological changes that are found. Cases are probably synovial in origin when there is actual and early enlargement of the joint due to synovitis and abundant synovial effusion. Lateral motion is present, but not accompanied with grating of denuded bone surfaces. On the other hand, cases which arise in bone have deep, boring pain with enlargement and tenderness

in one or more of the bone ends composing the articulation, while the joint itself is not enlarged and does not exhibit lateral motion. Muscular spasm and atrophy, and the other signs and symptoms of tumor albus are, of course, common to both classes of cases.

Dr. JOHN PARMENTER read the third paper, on

THE TREATMENT OF TUMOR ALBUS.

Acute diseases, as we all know, tend to recovery, and often in spite of the misdirected and blind efforts of the physician or surgeon. With chronic diseases, however, it is different. Nature has the underhand, so to speak, and oftentimes all the resources of the medical attendant are taxed to restore her to the supremacy. In treating a disease like tumor albus, therefore, we should carefully ask ourselves: firstly, Upon what principles should we base our treatment? and, secondly, How can we carry them out most safely and efficiently. I think we are all agreed that the two principles upon which we base our therapeutic measures against this disease are improvement of the general health and rest of the diseased part, and how we can best carry out these principles forms the subject of this paper to-night. I can only hope to give the outlines of the treatment applicable to tumor albus, but I trust that in giving these I may make them sufficiently clear and give due emphasis to that which I consider of most importance.

The treatment of tumor albus, therefore, naturally divides itself into the constitutional and local. Sometimes the former alone suffices; usually, however, a combination of the two is necessary. First of all, then, how can we improve the general health of the patient and overcome his predisposition to this form of trouble?

So much has been written on the constitutional therapy of tuberculous disease, especially of phthisis, that it is somewhat strange that surgeons, as a class, do not better grasp the details of the same. Certain it is that the average surgical text-book dismisses this side of the question with a few general remarks, and, perhaps, this explains why many surgeons attach relatively so little importance to constitutional measures, and proceed so readily and prematurely to operative means. To be sure, the incapacity of the patient to get around when one of the larger joints (as is too often the case) is involved, seriously hampers the surgeon. For the very reason, however, that the patient is thus denied exercise in open air and sunshine, the surgeon should develop to their utmost limit of utility the measures which remain to him. When the patient can be equipped with appliances which will permit exercise out of doors, we have made one long step toward

bettering his general condition. Exercise to the point of tire in ordinary weather, avoiding only the very unfavorable, is of great therapeutic value, direct evidence of which is to be seen in the usual deterioration of health which these cases suffer in the winter time, when exercise is often much interfered with. If I see a patient go through a winter without any change for the worse, I prognosticate recovery, and have as yet to see the case where such prognostication proved incorrect. The explanation naturally lies in the fact that a patient who can dispense wholly or in part with so important a feature of his treatment and still improve, or at least not retrograde, must be in a condition which gives good promise of future improvement. By all means, then, exercise in the open air when possible. But suppose our patient cannot get out, at least for the time being. Then massage should come to our aid. This should be entrusted to some member of the family, previously instructed by the surgeon as to its method of application, or, better still, to the professional masseur when possible. The room of the patient should be thoroughly aired, in winter time never less than three times a day, for fifteen minutes at a time, the patient being sufficiently covered and then uncovered by degrees as the room becomes warmer. He should also, during this time, be instructed to take deep inspirations up to the point of tire, increasing the number gradually on each succeeding day. He should have a bath (sponge or other) if possible. The addition of a little alcohol or sea salt to the water is advantageous. If no spinal or other disease contra-indicate, at the conclusion of the bath a sponge full of water should be placed upon the back of the neck and squeezed, so that the water may run down the spine. The water should be gradually made colder on succeeding days, until tolerance of cold water is established. This should never be done more than once at one sitting, and should be followed by gentle friction with a dry and crash towel. Sea air is a powerful adjuvant to our therapeutic measures. Food should be liberal and nutritious. Let the customary meals be regular. The mid-day meal (if luncheon) should be just as large as the dinner. The dinner should never be later than 7 P. M. Give food between meals, preferably in the form of milk. A glass of hot milk early in the morning is very grateful to some. Where milk disagrees, koumiss makes an efficient and agreeable substitute. Maltine and milk together are also good. Milk or some substitute should also be taken before bed-time, and during the night should the patient be awake.

In the medicinal treatment of this condition, Barwell recognizes two clinical types, one the delicate, thin skinned type, the other that with thick connective tissues. To the former he would give iron,

quinine, maltine, and cod liver oil. (Iodine in these cases must be used sparingly and cautiously and with other remedies.) To the latter he gives iodine, mineral acids, vegetable bitters and occasional purging. Here he regards cod liver oil as useless. I believe such a division to be useful, and borne out by the experience of most surgeons; but it must be remembered that many (perhaps the majority) of the cases do not fit exactly under one or the other types, but combine the two, and that in these cases a combination of the modes of treatment is better than either one alone. Such, at least, has been my own experience. Whatever the kind of case one rule holds good, "take care of the stomach." The observance of this rule by physician and patient has brought success in many cases. In no condition is strict attention to the primæ viæ and, especially the stomach, of more importance than in the scrofulous or tuberculous. Where acids seem indicated, I am fond of the following combination, recommended by Beale, for indigestion:

℞—Spirits Chloroform, ... ℥ iii.
Acid. Nitro-muratic. dil. . . . . ℥ vii.
Syrup. Limonis. . . . . .
Tinct. Aurantü . . . . . aa ℥ xi.
Sig. Teaspoonful in water twenty minutes before meals.

Oftentimes acids are better borne after meals, especially if there be any intestinal indigestion. When gastric catarrh is present, carbonate of bismuth often acts well.

To promote the appetite I use the following mixture, recommended to me by Prof. Roberts, of University College, London, and to his loud praises of its virtues I can heartily add my own.

It runs thus: Acid hydrocyan dil. min. iii., Sodii Bicarb grains x., Infus. Gentian, ℥i. The whole to be taken at one dose, and ten minutes before dinner and supper. The infusion closely resembles that of the British Pharmacopeia and is made as follows:

℞—Radicis Gentian. incis. . . . . ℥ ss.
Cortic. Limonis (fresh) . . . . . ℥ iss.
Cortic. Aurantü . . . . . grs. xlv.
Aquæ Bullient . . . . . oii.

Let this infuse for one hour, then strain and put in a cool place. Containing as it does no alcohol it decomposes rather readily and should be made in comparatively small quantities at a time.

A quite extensive experience with this combination leads me to prefer it to any other known to me, and furthermore it can be given coincidently with the next drug to be mentioned, viz.: Cod liver oil. The pale oil is preferable to the others, and, though theoretically best

given an hour after meals, is often better borne when taken directly after the same. Two to four teaspoonfuls after breakfast and the midday meal, agrees usually better than when one of the doses comes at night. Some, however, can take cod liver oil only at night. Disagreeable at first, the majority of patients soon learn to like it, and the taste once acquired, usually lasts for a long time, a remark which does not maintain with emulsions. Cod liver oil may often be given advantageously with tonics, with acids, with pancreatine and so on, according to the indications. When it disagrees change the time and vehicle. As a rule the gentian mixture above mentioned, before meals, and the cod liver oil after meals, make an efficient and not unpleasant way of employing these remedies.

Iron, arsenic, nux vomica, and other tonics all have their place according to the individual necessities of the case, but should never be used indiscriminately. Should alcohol ever be given? Ordinarily, I believe it can be given with advantage, but only with the two principal meals of the day. However, where moral or other considerations make its use undesirable, it can be easily dispensed with. Malt liquors are preferable, after which, in the order of merit, come the red wines.

The limits of this paper prohibit further remarks upon the treatment of the constitutional condition associated with and underlying tumor albus. I have only been able to hint at the methods which have stood me in good stead in dealing with this disease. Such a plan can be adopted with advantage in the majority of cases, rich and poor alike. The poor have rather been kept in mind than the rich, so that any advice given may be applicable in all cases. Drugs I deem of least importance, but still valuable, and so have been led to mention the best known and most efficient, giving at the same time a hint or two as to their exhibition.

At the same time that the physical condition is being carefully attended to, tumor albus requires local treatment. A brief inquiry into the recognized methods of the same, forms the second portion of this paper. Bearing in mind again that the principle underlying all local treatment is rest, let us see how we can best attain this end.

In tumor albus of the upper extremities, where the outdoor life of the patient is not interfered with, local treatment is often quite subsidiary. With the lower extremities, however, it is quite different. In the latter cases we must have a method which will give the affected part complete rest and at the same time permit the patient to get about if the inflammatory condition be not too acute to contra-indicate the same. Naturally our apparatus must vary with the joint affected, and

this is not the place to go into therapy of the separate joints. I shall content myself, therefore, with merely mentioning for the hip, extension and a plaster-of-Paris bandage, fixing pelvis and thigh, the latter to be used when all deformity has been overcome, and the former to be discontinued at the same time. The Taylor splint is much used by surgeons, but is costly and permits deformity in a position of adduction with extraordinary ease.

For the knee the Thomas or Taylor splint is perhaps the best means we have of immobilizing this joint. Their price, however, forbids their use by the poor, in which case we can substitute an apparatus made of felt, soaked in a solution of shellac and allowed to harden on the patient. This is inexpensive and forms a very fair substitute for the above-mentioned splints. The ankle can be immobilized with plaster-of-Paris, water-glass or other means, and a high shoe put upon the opposite foot.

Beside immobilization, what else can we do? We can make (1) external applications; (2) injections; (3) ignipuncture; (4) incision and drainage, erasion, exsection or amputation.

Among external applications we can include absorbing ointments, water, with salt or carbolic acid in the form of poultices continuously applied, ice bags, irritating agents, as the moxa, cautery, fly blisters, and the like. Of all these agents, probably flying blisters and tincture of iodine are most efficient, and least likely to be followed by injurious results. It is hard to imagine how external applications can be of use in a disease affecting tissues so deeply situated. Where good results have followed from their use I am inclined to think that they were due to other measures used coincidently, and I, therefore, dismiss this method of treatment without further mention.

Chief among the injections are carbolic acid, iodoform-ether, iodoform-oil, and balsam of Peru.

Hütter was the first, I believe, to recommend the injection of a two-three per cent. carbolic acid solution by means of a Pravaz or other suitable syringe. The fluid is injected into the para-articular tissues with a moderate amount of force. Properly done, so far as I know, this never does harm, but very often is disappointing. Testimony as to its value is very conflicting. However, the good results attained by Schede, of Hamburg, some of which I personally observed, should lead us to give these injections further trial. Strict antiseptic precautions are to be observed and the injection repeated every eight or ten days.

In 1885, Verneuil published an article entitled, Injections of Iodoform-Ether into Cold Abscesses, claiming for them, among

other things, that they were innocuous. Since that time many observers have used his method with the result of disproving his assertion. Among the consequences following their use frequently occur severe burning pains, continued vomiting, narcosis lasting over several hours, and most undesirable of all, stretching with gangrene of the abscess wall, due to the rapid vaporization of the ether. In the face of such experiences as these, I think we must look upon iodoform-ether as an injection to be used with great caution, and never in extensive abscess cavities. It is given in five per cent. solution, anywhere from 10-100 grammes being injected at a time, according to the necessities of the case.

Iodoform and olive oil in the proportion of 1 to 5, of which 2 to 3 c.cm. are injected every eight days, makes a combination quite free from the objections just noted, when ether replaces the olive oil. Under its use giant cells cease to grow, the abscess contents lose their infecting power, and tubercles, together with tuberculous granulations, disappear. Pain becomes less, very early swelling diminishes, and the part becomes harder and firmer. Even abscesses become smaller and finally disappear, and the mobility of the joint up to a certain point returns. Such is the course pursued by the favorable cases which unfortunately are only too rare. Many are improved, but not cured, and many ultimately require operation. The oil should be sterilized and the iodoform mixed with it first before use. A brownish-red color indicates the formation of iodine which rapidly occurs. The syringe should be emptied with considerable force in order that the solution may come into contact with all the diseased tissues. A sublimate gauze bandage completes the procedure.

Balsam of Peru has been highly commended by Landerer and by VanVamossy, the latter, however, previously cutting away all diseased tissue. The good effects are identical with those of iodoform-oil. As used by VanVamossy, albuminuria was frequent, owing, undoubtedly, to the fresh wound surfaces with which it came in contact.

In very, very few cases do injections effect a cure; only one-third of the cases so treated show improvement. We cannot, therefore, regard them as potent agents for good in treating tumor albus, probably, because all the diseased parts are not and cannot be reached by them.

Another method of procedure is that by ignipuncture, which consists in applying the actual cautery to the interior of the bone substance. Introduced by Richet and Kocher, independently of each other, it has been widely used on the continent. To Park, of this city, belongs the credit of being the first surgeon to recommend and

practice ignipuncture in America, and concerning the indications for and the technique of its use I quote from his excellent brochure on Tuberculosis of Bones and Joints, and Its Treatment by Ignipuncture, published in the *Medical News*, August 30, 1884:

In general terms we may hold that ignipuncture is indicated in all cases of chronic ostitis where fluctuation and sinuses or other indications of points of softening and breaking down do not call for the curette or chisel, and in many cases when after removal of products of softening, the cautery can still be used to advantage to stimulate surrounding bone into a normal activity. Its application may be intra-osteal or intra-capsular.

In the former, the glowing platinum is either plunged through the skin and soft tissue right down to the bone and into its substance, or else an incision is made through a part or the whole of the soft parts, since it is not so much disturbance of these latter which is primarily aimed at. Antiseptic precautions and dressings are of course indicated, and if the incision has been a large one, it may be partially closed, but ample opportunity must be given for drainage, so long as it may be necessary. When combined with other operative measures, a depot of softening may be cut down upon, its contents removed, the sharp spoon used as indicated, and from this bone cavity the cautery point may be made to perforate in different directions. The bone exposed to intense heat is burnt into a crust; around this takes place an active inflammation which leads first to an osteo-porosis, and later to an osteo-sclerosis, which means virtual recovery. As I have already tried to show how often a primary bone lesion leads to a serious joint complication, it will be seen that the intra-osteal ignipuncture may have a most important prophylactic effect as against the same; in fact, my own experience has taught me its value in this respect.

Intra-capsular ignipuncture may be made either with or without previously opening the joint. If the joint is supposed to be in a fungous condition, it should certainly be opened and cleaned out, but if it seems to be merely a lesion in a bone-end lying so close to the joint surface that it can only be approached by going through the joint, then no hesitation need be felt in burning right through the capsule and its cavity into the bone; only being doubly careful about the antiseptic precautions. Lücke does not hesitate to lay the joint freely open. If the joint surface is healthy, and only bone is diseased, joint re-action is unlikely to occur. This measure is also said to be serviceable in chronic rheumatic and other forms of synovitis, though I have had no personal experience with it in such cases.

In every case in which I have resorted to it, I have administered an anesthetic, though Kocher states that he seldom gives one. The actual cautery used in this way, and with the avowed purpose of securing, not a derivative effect, whatever that may be, but a speedy and acute reactionary inflammation, is to be considered quite apart from the vigorous counter-irritation which so many, Syme, for instance, have sought to induce by the moxa or any external application of cautery or issue. . . . So far as my own experience goes, the first result of its use is a speedy relief of the characteristic ostitic pains; tenderness on pressure disappears later.

Lastly, we can treat tumor albus by incision and drainage, erasion, exsection, and amputation. Inasmuch as our application of any of these methods of procedure must vary with the special part affected, and a description of them all is incompatible with the limits

of this paper, I shall content myself with a brief consideration of the indications for such radical operative measures—a matter far more difficult to learn than the technique of the operation. I regard one or the other of these procedures indicated in all cases where (1) an abscess exists; (2) there is positive bone disease; and (3) cases that have not improved under the long-continued and persistent use of the milder and more conservative methods of treatment.

Incision and drainage in cases of abscess formation are, in my opinion, of doubtful utility. I believe it is a good rule in the great proportion of cases never to open the abscess unless you are ready to make a radical operation. Spontaneous discharge of the purulent collection causes less disturbance to the patient usually than opening with the knife, no matter how rigid the antisepsis. The above remarks naturally do not apply to cases of acute infection. Here there is rapid disorganization going on, with severe symptoms, and speedy incision is urgently demanded.

Erasion, or arthrectomy, in the proper sense of the word, is applicable to those cases in which the synovial membrane and ligaments only are diseased and removed. With those who look upon every case of tumor albus as originating primarily in the synovial membrane, it is a favorite operation. The removal of a certain amount of bone, or cartilage, when diseased, is permissable. Erasion, therefore, is indicated only when the disease is chiefly synovial, and in such cases it possesses advantages of signal value, among which are no shortening of limbs, no deformity, and no arrest of growth from interference with the epiphyses.

If the condition has progressed so far that both bony and soft parts are much involved, and yet there remains sufficient sound tissue to warrant it, exsection should be made. It may be partial or total, but in either instance two things are imperative—to remove everything diseased, and to avoid removing anything not diseased. Observance of this rule, with careful cleansing of the joint cavity, are essential elements of successful exsections.

Amputation is to be used only when other methods are unavailing. How much and when to exsect, or when to amputate, will depend upon the necessities of each individual case, and naturally the training and experience of the surgeon, in deciding this question, will be valuable in proportion as they have been thorough and extensive. No more perplexing problem presents itself to him than this very one, and therefore every case demands his earnest and thoughtful consideration. Without doubt, many surgeons are too radical, and cut away much that would be of immense use in the future. Especially is this true in

the case of children, upon whom, in my opinion, radical measures are far too often pursued. Conservative treatment here will do wonders in cases that seem almost hopeless. A more thorough recognition of the value of constitutional measures and a more perfect immobilization, by which the lower limbs may imitate in their mechanical surroundings the upper limbs, will make resort to the knife more and more infrequent. I have three times seen general tuberculosis follow exsection of the hip. This is best explainable on the ground that infection of the fresh wound surfaces took place, the bacilli thus readily gaining access to the general circulation.

At the same time I do not wish to be understood as a procrastinator. There is undoubtedly in every case a time beyond which it is wrong to delay; but when the surgeon thinks the time for operation has come, he should have the consciousness of having given all the less radical measures a faithful and thorough trial. When can a patient be regarded as cured? So many patients, after operation, die of tuberculous trouble, either recurring in the same place or somewhere else, that it is desirable, for purposes of prognostication, to have some time limit, arbitrary though it be. To this end Dr. Schmid-Monnard, of Halle, has collected statistics, which he has given in the *Centralblatt für Chirurgie*, No. 52, 1889. He has collected 116 fatal cases which were under observation after resection from two and one-quarter to fourteen years, with the following result: Seventy-four (sixty-four per cent.) died within one year of the day of operation, nineteen (sixteen per cent.) died within two years, leaving twenty-three (twenty per cent.) living after two years, of which the majority died from two and one-half to three and one-half years post resectionem. He says: "After the expiration of two and one-quarter years, probably only four per cent. of all cases resected die from their disease or the immediate consequences of the same." He thinks that all who are healed after two and one-quarter years will probably remain so, and that resection statistics should not include cases observed for a less period than this. This, I think, agrees in the main with the experience of most surgeons. To be sure, there will be exceptions, but the majority of cases are doubtless within the rule.

In conclusion, let me say that no attempt has been made to present a formal paper on the treatment of tumor albus. I have simply tried to hint in a familiar way at the methods usually employed in treating this disease, and to emphasize some points which the experience of others and my own have found useful.

Dr. W. H. Bergtold opened the discussion. He expressed his appreciation of the honor of being called upon to lead the discussion,

and said the subject had been so thoroughly covered that he could find but little to add. One phase of this question is of more than passing interest, to-wit: the fact that tubercular arthritis is so common in children. Given a case of *tumor albus*, the chances will probably be fifty per cent. that it is in the extremity of a child or young person.

The tubercular infection may be inherited or acquired; while the first is, as yet, not accepted by all as proven, still the experiments of Landouzy and Martin (Ref. Haulb., vol. viii.—p. 340) seem to show that tuberculosis can be transmitted from parent to fetus. Be this as it may, and starting with a given infection, why is it that the manifestations are exhibited, as a rule, in the lungs, in an adult, and in the long bones and their joints, in a child? It looks reasonable to assume that those parts which receive proportionately the greatest amount of blood, and at the same time have the slowest and weakest drainage by the lymphatics, will receive the most infectious material, retain it the longest, and first show signs of the tubercular disease.

These conditions are abundantly present in the ends of the long bones of the child; the epiphysis has sent to it a goodly share of blood, both because of great activity of growth, and ossification, and the great pressure received in play, romping, etc., incidental to a child's life. In the adult, these parts have matured, and while still receiving, in comparison, a larger share of blood than the other portions of the bone, yet the amount is not nearly so great as that taken by other parts of the body, the lungs, for example. In acquired tuberculosis, probably ninety-nine per cent. occur through the lungs and intestines. In each place lymphatic absorption is active, and all of the infectious material is probably sifted out by the lymph nodes, leaving the lymph innocuous, and starting a tubercular focus in the node. In congenital tuberculosis, however, infectious material may be circulating, or remaining dormant until a predisposing cause, as an attack of measles, etc., so lowers tissue resistance that, with the epiphyseal supply of blood (being relatively large), sufficient infectious matter is received, and retained (by virtue of slow lymphatic drainage) to inaugurate the tuberculosis in the form of an ostitis, and later, an arthritis. If this view of the case be correct, it is easy to see why the ends of long bones, and their joints should suffer from tuberculosis in children, so often in preference to the lungs or other parts of the body. Such an idea is manifestly open to many criticisms, but it appears to accord quite well with the physiology of the parts and clinical manifestations.

Dr. Roswell Park spoke next. He recalled his experience before the city Society some years ago, when he read a paper present-

ing what were then new views on this subject. He was then derided, and, partly to defend the position he then took, he has since examined microscopically his cases of tumor albus. In many, but not in all, he found the tubercle bacillus. He has not seen so much secondary dissemination as is claimed by German authorities, and he thinks it is owing to the better condition of our working classes compared to those of older countries, especially Bohemia and Ireland. He believes no surgeon in Buffalo would obtain the mortality rate of sixty-four per cent. from secondary dissemination claimed by German surgeons after operations for tumor albus.

Dr. McCHESNEY related the history of a case of tumor albus. The patient had a family history of tuberculosis and a personal history of traumatism, from which the disease dated. The case improved for a time under treatment, but, after passing into other hands, died of secondary phthisis pulmonalis. Dr. McChesney thought more should be done to prevent milk of tubercular cows from being used as a food.

Under Presentation of Specimens, Dr. Wm. C. Krauss reported the following case and presented part of the thoracic aorta with a ruptured aneurism, which had produced sudden death.

The history of the case is as follows:

The patient, a young, well-built man of twenty-four years, had for some time complained of neuralgic pains over the right hypochondrium, and a cough, spasmodic in character, which had resisted all treatment. Being confined to the house on account of no work, he had occasion to step to the window to see a passing funeral. He returned to near the stove, sat down, and fell forward—dead.

The case was reported to the proper authorities, and at first it was thought unnecessary to hold an autopsy, as "in all probability it was a case of heart disease." The autopsy, however, revealed a different state of things. On opening the thorax, the right general cavity was found filled with a light straw-colored fluid, which on removing changed to sero-hemorrhage, and finally nothing but huge blood clots remained in the floor of the cavity. The right lung was collapsed and retracted. The causa mortis was decided at this point on receiving the information that the young man had contracted syphilis 18 months previous, and had allowed it to go on without treatment. The heart showed signs of fatty degeneration and infiltration. The arch of the aorta contained three quite large, soft, spongy, gummatous plaques. At about the middle of the thoracic aorta, a sacculated aneurism about the size of a pigeon's egg was found, which contained some blood clots, and with walls intact. At the lower part of the aorta was situated another sacculated aneurism, about the size of a hen's egg.

This aneurism was facing the right, lying upon the dorsal vertebra and infringing upon the diaphragm. Its walls were irregular and presented quite a large opening, through which the fatal hemorrhage took place.

The symptoms during life were easily accounted for by the pressure of the aneurism upon the intercostal nerves and upon the diaphragm, or pleuric nerve. The cause of the aneurism at such an early age was no doubt due to syphilitic infection.

TRANSACTIONS OF THE BUFFALO OBSTETRICAL SOCIETY.

Reported by WILLIAM C. KRAUSS, M.D.., Secretary, Editor of the Transactions.

STATED meeting, February 25, 1890, held at 273 Franklin street.
The President, Dr. C. C. FREDERICK, in the chair.
Dr. DELANCEY ROCHESTER read the paper of the evening, entitled,

TWO CASES OF GASTRO-INTESTINAL DISTURBANCE COMPLICATING THE LATTER MONTHS OF PREGNANCY.

All of the works on obstetrics make mention of the gastro-intestinal disturbances of the first trimester of pregnancy, but few make any reference, more than mere mention, of such disturbances in the latter months of gestation.

I wish to call the attention of the Society this evening to two cases. I present only two cases because those that responded to ordinary hygienic measures I do not consider as worth reporting.

The first case is as follows:

CASE I.—On the 7th of April, 1887, I was summoned in haste to see a woman who expected to be confined some two months later. On my arrival at the house I found the patient lying on the bed, writhing in pain. She was the mother of several children, and, in reply to a question, said that the pain was entirely different from the pains of child-birth, except in its intermittent character. I made a bimanual examination during one of the paroxysms, and became convinced that the pains were not produced by uterine contractions, and that I must look elsewhere for the cause. The pain was in the abdomen, more especially located in the epigastrium and left hypochondrium at first, but soon spreading over the whole abdomen. I immediately asked after the state of the bowels, and was informed that they moved regularly every day, and had moved that morning. I satisfied myself that the bladder

was empty, and, by palpation of the upper part of the abdomen, a tumor was discovered on the left side, extending into the lumbar region below, and apparently continuous with the spleen in the hypochondriac region above. The tumor itself was only slightly sensitive, but pressure upon it produced a recurrence of the pain, on account of which I had been called. The pain was so intense as to require pretty good-sized doses of morphine by the mouth to quiet it. I did not resort to hypodermic injection for fear of injury to the fetus in utero.

I did not manipulate the tumor extensively that day on account of the great pain produced by touching the part. Examination on the next day proved the tumor to be about four inches wide, extending about six inches below the border of the ribs, and continuous, as far as percussion could show, with the spleen above. It was slightly movable, and apparently a little more yielding than an ordinary spleen, but not so soft that it could be in the least indented, even upon hard pressure. Moreover, hard pressure always produced severe pain. I could not rid myself of the idea that it was impacted feces, although the patient insisted that she had regularly had a free daily movement of the bowels. Nevertheless I ordered a rectal enema to be given, high up in the bowel, of one pint of a saturated solution of epsom salts. This produced a tremendous discharge of fecal matter, and the tumor and all its unpleasant symptoms disappeared. I told her to make occasional use of salts through the rest of her pregnancy, and everything went on well. Constipation in the latter months of pregnancy is of very common occurrence, but it seldom goes on to the formation and retention of such large scybalous masses as in this case.

The peculiarity of this case is that the accumulation took place in spite of the fact that the patient had a daily evacuation from the bowels of a quantity which she considered sufficient.

In the treatment of the obstinate constipation of pregnancy I have found nothing so good as the Fl. Ext. of cascara sagrada—Parke, Davis & Co.'s preparation—together with the occasional use of salts. In cases where epsom salts are objectional by the mouth on account of the nausea excited, they are very efficacious given in saturated solution, high up in the bowel, per rectum.

The other case I have to relate is connected with the other end of the intestinal tract.

Case II.—A woman of twenty years of age, in her first pregnancy, was greatly nauseated during the first three months. During the next four months she lived in comparative comfort, but occasionally would suffer from attacks of nausea. During the last two months, however, about midnight she would awaken with great distress in her stomach, which would be finally relieved by vomiting a thick, glairy mucus. During the day time she had unpleasant feelings, excepting occasionally a sore throat without visible lesion; she was slightly constipated, and this was readily overcome by cascara sagrada; but the relief from constipation did not affect the midnight nausea. Morphine, combined with cerium oxalate, gave the best results but did not relieve entirely.

Final release came only with the birth of the child, and, strange to say, during her labor, which lasted twenty-six hours, she did not vomit or have any feeling of nausea except at the midnight hour.

I have no remarks to offer on this case, except that as it was a little out of the usual run, I thought it worth reporting.

Dr. A. E. Persons.—I have seen these disturbances, not so much during pregnancy, but under certain other conditions. Have seen large impactions of feces, which were diagnosticated as pus cavities, which it was proposed to open and wash out. A careful examination showed the tumor to be fecal in character, and an enema removed the mass. I believe that in the latter months of pregnancy impaction is due to the pressure on the intestines and the consequent innervation, producing a constriction at one end and a dilatation at the other. In cases of persistent vomiting and nausea, some abnormal condition must be present, and hence stomach sedatives had better give way to cervix sedatives.

Dr. E. Clark.—I have found Parke, Davis & Co.'s preparation of cascara sagrada one of the best remedies for impaction and constipation. Nux vomica relieves somewhat the torpor of the intestinal muscle. I think that fecal accumulations can go on, and yet the patient may have a daily evacuation of the bowels.

Dr. Geo. E. Fell.—I have had some good results with P., D. & Co.'s preparation of cascara, and have combined it with Wampole's cod liver oil. I believe it is advantageous to combine a tonic with a cathartic.

Dr. W. W. Potter.—The lesson to be drawn is that not much reliance is to be placed upon what the patient says about her evacuations. Impactions may become softened near the center, forming a sort of a tunnel, and daily evacuations may follow. Persistent nausea is a difficult question. Cocaine, given internally, has proven very efficient. But it becomes necessary in some cases to resort to abortion in order to save the patient's life. I have seen one patient die of inanition produced by persistent nausea, where abortion was proposed but declined.

Dr. Thos. Lothrop.—I have relied more upon colocynth co, hyoscyamus, and nux vomica, than cascara sagrada in the treatment of constipation of pregnancy, and have had excellent results. I do not believe that any one remedy can be relied upon in the vomiting of pregnancy. Cocaine will do nicely in one case, and will utterly fail in another, the reason being our inability to reach the cause.

Dr. R. L. Banta.—I would not give P., D. & Co.'s preparation of cascara for personal reasons. We do not meet the persistent vomiting so much in the later stages as in the second and third months of pregnancy. Cocaine has done some wonderful things in my practice. Oxalate of cerium in thirty to forty grain doses, three times daily, has produced good results. I rely, however, upon cocaine.

Dr. EUGENE SMITH presented a report of the following case of cephalhematomata as occasioned by the age of the mother and the large size of the child :

On February 13th I visited Mrs. R——, and found she had been having labor pains for ten hours. She was a primipara, forty years old. The abdominal tumor was large, the pains hard, the "waters" had broken and were dribbling away from time to time. An examination revealed the cervix soft and dilatable, the os the size of a twenty-five cent piece, the presentation L. O. A. Eight hours later I found no change, except that the cervix was readily dilatable when spread by the fingers, but thicker and more boggy, the so-called anterior lip being much puffed and swollen. This condition of the cervix became more marked in the succeeding ten hours, when the head had fairly engaged in the pelvic cavity. The cervix could be pushed up above the head between pains, but it came down again with every pain.

On the morning of the 14th of February,[1] I found the patient was losing courage and the pains were losing strength, becoming shorter and more spasmodic. Applying the White's forceps, I delivered the head after a series of efforts, which, like real pains, advanced the head gradually. Pulling with one hand and pushing up the swollen cervix with the other, the cervix finally remained above the head. The mother made a good recovery.

The child weighed fourteen pounds, and after birth showed a slight mark of the forceps blade over the frontal eminences, the forceps having adapted themselves to the head before rotation had taken place. This was the more difficult to prevent because the head slipped above the pelvic brim upon trying to lock the forceps after their application.

Twenty-four hours after birth the baby first showed a slight ecchymosis over the frontal bone, which slowly spread and deepened until the eyes were closed and the whole frontal region was deeply ecclymosed. On the third day the child refused to nurse, and later Cheyne-Stokes' respiration heralded its death, which occurred on the morning of the fourth day.

A post-mortem was not secured, but compression of the brain from clot formation was believed to be the cause of death, although no paralysis in the extremities was noticed.

Correspondence.

FOREIGN LETTER.

BERLIN, February 4, 1890.

Editors Buffalo Medical and Surgical Journal:

AS YOU doubtless have heard, I arrived safely in Berlin some days ago. That same day I took my letters of introduction to the various professors, and was very warmly received, especially by those in the nervous hospitals and clinics. I visited the clinics of my friend, Prof. Mendel, who is, perhaps, the greatest man in this specialty, (nervous

1 To relieve distension of the bladder, the catheter was used at midnight.

and mental diseases,) in Germany. I was astonished at the enormous amount of material at his polyclinic; about 300 nervous patients visit it daily from all parts of Germany, chiefly from Berlin. In every other department it is quite the same. The clinics alone run from early morning until after dark, every clinic is crowded, so that one wonders where all the sick come from. But no money or pains have been spared to make Berlin *the center* of medicine. This is generally admitted by American students to be the case. Paris, London, Vienna and New York have their especial features, but none have all departments so complete as here. This year there are about 6,000 students in Berlin, and about 2,500 of these are medical. So many lectures are going on at one time that you seldom, however, see more than 100 together, except at the anatomy lecture, and lectures of DuBois Reymond, on physiology. This morning I left my room at 8.30, and went to the Charity Hospital, where I passed through the wards devoted to nervous diseases, with Dr. Oppenheim, Chief-of-Staff of the hospital, who is a noted man in the specialty, having made many original investigations. The first case was that of a woman, about thirty years, who had left hemiplegia; at first he considered this hysteria, but upon closer investigation he found the sense of smell on the left side absent. Electrical reaction was greatly diminished, and the sense of taste somewhat impaired on the same side. This came on after a sudden attack of unconsciousness, lasting but a moment. The diagnosis was that of embolus, the exact location was somewhat doubtful on account of the complication of symptoms. A second case considered to be hysteria, was bulbar paralysis, with atrophy of the muscles of one side of the tongue; in this case a thorough electrical examination showed atrophy of the muscles of the left side with no electrical reaction but loss of sensibility, loss of sense of taste on left side of the tongue, etc. The atrophy was not at all marked when observed by the eye alone, before the application of the current. A case of disease of the cerebellum was observed, gait wide and unsteady; in turning suddenly patient lost his balance; reflexes exaggerated, instead of lost, as in tabes; dizzy most of the time. Case of spinal injury with slight curvative in lumbar region was followed by paralysis in right leg only, which was considered quite wonderful. At ten o'clock was held his polyclinic, where patients from outside are seen; those that come for the first time are seen at once and carefully examined before the class, starting with the history of the case, the examination of the head, eyes, chest, extremities electrical reactions, reflexes, etc., are all carefully gone over. A child four years of age was presented,

mental faculties good, eyes normal, head symmetrical. Reflexes exaggerated, could not lift the legs, nor use the hands, so that she was wholly unable to grasp anything, unable to walk or maintain the upright position. Diagnosis, absence of cerebellum. Examination of patients continued for two hours, during which time persons with paresis, hysteria, locomotor ataxia, neurasthenia, poliomyelitis, headaches, etc., were examined and presented. Every new patient, both in the hospital and in the clinic, who has head symptoms is examined by an oculist before a definite diagnosis is reached. One patient gave the following history: He had lived in America five years, where it was said he had epilepsy. He had been at home a week. The mother described the attacks as coming on suddenly at the dinner-table, usually, when he would throw over the table and continue for several moments to tremble and act as if frightened, or as if he saw something before him. He never lost consciousness, and when the attack was over he did not sleep. These attacks came on several times daily. Patient was hypnotized, and the suggestion made to him, while in this condition, that he would not have any more attacks. He remained in this hypnotic state about five minutes; when aroused, he was sent to the Neue Charité, a division of the hospital for epileptics, and mental diseases, where they are observed and treated, or sent to other institutions, hospital or asylum as need be, or home again. At this writing, three days later, the boy has had no more convulsions. Probably this was a case of hysteria. At eleven o'clock the clinic of Prof. Leyden took place. He presented several cases of endocarditis, which had been considered to be malarial in character. The fever chart showed exacerbations and remissions quite similar to this disease, but quinine had not affected the sense of any in the slightest. All the symptoms of endocarditis were present. He considered the course of this disease, in many cases, to be malaria, quite as often as rheumatic, and some times ill health and loss of vital power through any sickness, as pneumonia, typhus, etc., was the cause. Several cases of spinal disease, poliomyelitis, locomotor ataxia, alcoholic spine, so-called, and simple paralysis of extremities with atrophy, were presented. The first two he considered true spinal diseases, and that the first was a disease of the anterior columns of the spinal cord. That it was little understood until the discovery of the multi-polar ganglion cells in the anterior columns of the gray matter of the cord. That in poliomyelitis, otherwise known as infantile spinal paralysis, here was the first change noticed, *i. e.*, destruction of multi-polar cells: (1) Congestion of a certain portion of the cord. (2) Destruction of these cells. (3) Degeneration of the tract. (4) The sclerosis.

(5) Degeneration of nerves. (6) Muscular atrophy, etc. The symptoms are usually paralysis, after a slight fever, loss of electro-contractility of the muscles in a few days, atrophy and fatty degeneration of the muscle. He maintained that it occurred in adults less frequently than is generally supposed, such cases being mistaken in adults for simple paralysis, with atrophy, due to peripheral disease and not central. The pathological change in locomotor ataxia is well known—a sclerosis of posterior columns of the cord.

The cases of alcoholic spine he described as a neuritis, a change occurring first in the muscles, and, occasionally, the spine itself might be affected. He presented a case of paralysis of this sort, a man who, four days before, had been admitted to the hospital with complete loss of motion of the lower extremities and some loss of power of the upper extremities, loss of reflexes. No eye symptoms, as in locomotor ataxia. These symptoms had nearly all disappeared since admission, and could only be due to alcohol. Many other spinal diseases, so-called, he claimed, were previously diseases of the muscles, such as simple paralysis of muscle with atrophy paralysis, due to many poisons, such as lead, alcohol, etc.

Syphilis of the cord might be mistaken for any other of the spinal diseases, as it simulated them all, especially locomotor ataxia, or rather tabes, as it is universally called here. At twelve o'clock I went to the new charity hospital, where Dr. Siemerling, for many years the assistant of Prof. Westphal, lately deceased, gave a clinical lecture on mental diseases, lasting until 1.30 P. M. He presented several cases of paresis, one of which was totally blind; also cases of paruria. At 3 P. M. is the polyclinic of Prof. Mendel, as before mentioned. About three hundred nervous patients visit his clinic daily. To care for so many, the system must be very good. The rooms are quite perfectly arranged. The patients are received in a large waiting-room, and numbers given. Opening out of the the room are two large rooms, fitted up with all sorts of electrical apparatus. One of these is for women, one for men. In the rear of these are three rooms, one where the patients are seen who visit the institution for the first time. Again, a fifth room, for examinations, administration of oxygen, etc. In the rooms where the patients are seen for the first time are two expert assistants, who make a careful examination of each case, and note the same. Prof. Mendel visits from one room to the other, seeing each of these patients. In the other rooms, at the same time, ten patients are received at once, and treated with electricity, with suspension if the case be tabes, or new medicine ordered, as the case requires, enough

assistants being present in each room to conduct the treatment properly. Dr. Rosenbaum, who has had charge of the suspension of these cases of tabes, has conducted them for over a year. The method of suspension is quite different from that first proposed by Motchoukowsky, of Odessa, and afterwards practised by Charcot. Patients are drawn quite off the floor, and from time to time are required to throw the arms gradually in the air, thus allowing the whole weight to come upon the head straps. They are also suspended longer than was at first proposed, each case being a law unto itself, as the patient bears it. Great care is also exercised in suspending patients, each case being studied carefully and observed, promiscuous suspension being sure to bring about very bad results. Dr. Rosenbaum has made over two thousand suspensions, and says the greatest improvement noticed is in the gait, Romberg's sign, bladder, symptoms, pains, etc., and that these are more or less permanent. One-fifth of all cases are benefitted by this treatment. Considering that in tabes other treatment afforded us formerly almost nothing, it is not surprising that so much is said of this form of treatment. I notice in the Berliner *Medical Weekly* several cases reported of unpleasant results in other clinics from suspension—one death, one or more followed by epileptiform convulsions. After the polyclinic proper comes an hour for the reception of patients for the treatment by massage; electricity and massage playing a very important part in the treatment of nervous diseases. At five o'clock Prof. Mendel gives a clinic on nervous and mental diseases, and once a week on nervous anatomy. Following these are lectures by Bernhardt and Remak on electro-diagnosis, and Preger on hypnotism. He believes thoroughly in the practical application of this method to diseases of the nervous system, which belief is not generally enjoyed by many here. Concerning this and other subjects I will write you. Thus is the day spent in one department alone. Even Sundays are used for visits to asylums, hospitals, etc. The influenza is about over, but many diseases, especially in the nervous line, are reported as the result of this malady.

FLOYD S. CREGO, M. D.

GLYCERINE SUPPOSITORIES.—Those who use Glycerine Suppositories for constipation will find that suppositories fashioned from soap, containing at least thirty per cent. of glycerine, will be a very fair substitute for the ones offered by manufacturing pharmacists, and that the chief difference to be observed is in the greater cost of the latter. —St. Louis *Weekly Medical Review.*

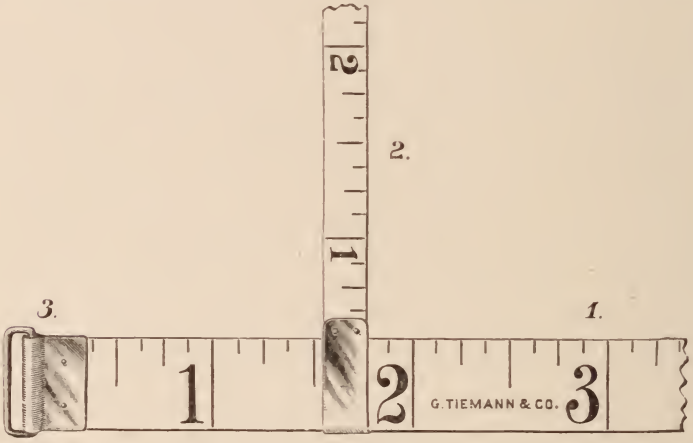
New Instruments.

AN IMPROVED TAPE MEASURE.

By WILLIAM C. KRAUSS, M. D., Niagara University, Buffalo, N. Y.

Among neurologists, perhaps, no symptom is more important and significant than muscular atrophy or wasting. The key-note of diseases affecting the anterior columns of gray matter of the cord, and of peripheral nerves, it is often improperly noted and erroneously measured.

The custom of comparing the two sides by sight or by touch, in many cases permits of errors which may be of serious moment in reaching a prognosis or diagnosis. The employment of the ordinary tape measure, a step approaching accuracy, also permits of discrepancies. The practice of taking measurements at the lower, middle, and upper third of the extremities may be sufficiently exact for one measurement on one side, but when double measurements are necessary for comparison,



or when successive measurements are required, this mode is also inadequate, inasmuch as it is very improbable that the tape will be applied at exactly the same place as before.

To correct this difficulty, Messrs. Geo. Tiemann & Co., of New York, have made for me a tape measure which permits of the greatest accuracy possible, and the absolute exclusion of guess-work in using it.

It is particularly adapted to the measurement of the extremities, and consists of a tape (1) thirty-six inches long and one-half inch wide. The English scale is graduated on one side and the metric scale on the other. The head is supplied with a swivel (3), through which passes

the free end of the tape, permitting of uniform tension, greater accuracy in reading, and of its being held with one hand.

The second tape (2) is eighteen inches long and one-quarter inch wide, and is provided with a sliding head through which the first tape passes. This tape is, therefore, at right-angles to, and movable upon, the first tape. It is also graduated after the English and metric scales. The object of this tape is to ascertain at what distance from a certain fixed bony point the first tape has been applied, so that on succeeding occasions the measurement may be taken at the same point. To illustrate: If the tape (1) be applied to the arm at a distance of five inches from the internal condyle of the humerus (reckoned by means of tape 2), it is obvious that on succeeding occasions, or in comparison of the two extremities, the tape (1) must be applied at exactly the same point, thus excluding all possible chance of error.

I believe this tape to possess certain points of value to neurologists, surgeons, and those intent upon accuracy and precision in their observations.

176 Franklin Street.

THE MERRITT H. CASH PRIZE ESSAY.

Albany, N. Y., March 1, 1890.

Editors Buffalo Medical and Surgical Journal:

For the information of all concerned, I desire to state that the Medical Society of the State of New York offers a prize of $100, payable from the Merritt H. Cash Prize Fund, for the best original essay on any medical or surgical subject.

The conditions are: That the competitors shall reside in the State of New York; that the essays shall be either printed or type-written; that each essay shall be designated by a motto on the title page; that a corresponding motto, together with the name of the writer, shall be inclosed in a sealed envelope and attached to the essay; and that all essays shall be sent to the Chairman of the Committee on Prize Essays, Dr. George F. Shrady, New York, prior to January 1, 1891.

F. C. CURTIS,

Secretary.

Other members of the Committee are Drs. Daniel Lewis, New York, and Eugene Beach, Gloversville.

BUFFALO MEDICAL AND SURGICAL JOURNAL

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EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

FORTY-FOURTH ANNUAL COMMENCEMENT OF THE MEDICAL DEPARTMENT, UNIVERSITY OF BUFFALO.

MEETING OF THE ALUMNI ASSOCIATION.

THE forty-fourth annual commencement of the Medical Department of the University of Buffalo took place Tuesday, March 25, 1890.

At the morning session of the Alumni Association, in the absence of the President, Dr. Shurley, of Detroit, Dr. M. B. Folwell called the meeting to order, and introduced Prof. Parmenter, who gave a brief address of welcome, in which he spoke of the recent changes in the Faculty, recommended a closer connection between the Alumni Association and the Faculty, and exhorted the members of the Association to take a live interest in it and make it a power in the medical profession.

The following officers of the Association were elected for the ensuing year:

President, Peter M. Wise, M. D., Ogdensburg, N. Y.
First Vice-President, M. B. Folwell, M. D., Buffalo, N. Y.
Second " " E. R. Hopkins, M. D., Silver Creek, N. Y.
Third " " W. C. Callanan, M. D., Buffalo, N. Y.
Fourth " " A. G. Ellenwood, M. D.
Fifth " " F. F. Hoyer, M. D., Tonawanda, N. Y.
Permanent Secretary, John J. Walsh, M. D., Buffalo, N. Y.
Recording Secretary, Eugene Smith, M. D., Buffalo, N. Y.
Treasurer, E. C. W. O'Brien, M. D., Buffalo, N. Y.

At the afternoon session Vice-President Dr. Peter M. Wise, now of Ogdensburg, N. Y., presided in place of the president, Dr. Shurley, of Detroit.

Prof. John Parmenter read a paper on The Local Treatment of Erysipelas.

Prof. Chas. G. Stockton presented a paper entitled Clinical Notes on Gastric Faradization.

Prof. Ernest Wende read a paper on The Modern Treatment of Scabies.

The Commencement exercises took place at Music Hall in the evening. A large audience was present to see the conferring of the degree of Doctor of Medicine upon the candidates for this title.

In the absence of the Chancellor, the Vice-Chancellor, Hon. James O. Putnam, awarded diplomas to the following class :

Stanley C. Babcock, Buffalo; Will H. Baker, Wilhelm; Nathan E. Beardsley, Pine Valley; Ida C. Bender, Buffalo; Harry S. Benham, Honeoye Falls; George M. Brockway, North East; Franklin Burr, Lindley; Morris W. Cowden, Gerry; Thomas G. Corlett, Buffalo; Abraham F. Crans, Owego; Wm. H. Crowley, Rainbow; Chas. Edson Davis, Mecklenburg; M. Emma Dickinson, Geneseo; Elmer E. Eddy, La Fargeville; Robert M. Elliott, Gasport; Wm. F. Elmendorf, Buffalo; Albert F. Erb, A. M., Clarence; Richmond E. Gibson, Coudersport; Thomas H. Hallett, Huron; Herman Hellenstein, New York City; Jacob E. Helwig, Clarence; Harrie B. Howell, Rochester; Wm. J. Humphrey, Union City; Wm. L. Hunter, Lockport; Burt C. Johnson, Gowanda; Thomas R. Jones, A. B., Ripon; Wm. E. Kay, Otterville; Chetwode H. W. King, Buffalo; Heinrich C. Leonhardt, Logan; Charles T. Loritz, Rochester; Thomas B. Loughlen, Olean; Frederick E. McClellan, Canandaigua; John J. McCullough, Buffalo; Charles S. Meahl, Clarence Centre; Jerry C. Murphy, Humphrey; Arthur T. O'Hara, Albion; Chas. B. Osborne, Burdette; Jeanette M. Potter, Ithaca; Alice R. MacLean Ross, Buffalo; Marie S. Ross, Buffalo; Addison W. Scott, Fayette: Jacob J. Simonds, Shelby; Chas. S. Smith, Bath; Franklin A. Stevens, Sinclairville; Walter Stuart, Harmony; Clara B. Talbot, Rockport; Wm. Teft, Hornellsville; Daniel J. Tillotson, Victor; George W. Tong, Tonawanda; Frederick B. Willard, Geneseo; John White, Williamsport; James Franklin Whitwell, Medina.

The honor roll was announced as follows :—Messrs. King, White, Miss Bender, Johnson, Tong, Brockway, Miss Alice Ross, Davis, Humphrey, Burr and Willard.

Mr. Willard received honorable mention for the general excellence and originality of his thesis.

The degree of Graduate in Pharmacy was conferred upon the following class:

John McCullough Bargar, Sinclairville, N. Y.; Lucius Rinaldo Blackney, Buffalo; Herman Cornelius Cleveland, Buffalo; Elizabeth

Dort, Buffalo; Mathias Joseph Frisch, Buffalo; Charles Henry Gauger, Rochester; Frank Hall Goler, Rochester; William Charles Heussy, Buffalo; William George Holser, Buffalo; John Christian Krieger, Salamanca, N. Y.; Frank Gardner Prescott, Buffalo; George Benjamin Rogers, Buffalo; Eugene Ariel Spenzer, Cleveland; Edward Everett Stanbro, Springville, N. Y.; Arthur Lee Williams, Clayton, N. Y.; William August Ziemendorf, St. Joseph, Mo.

The Rev. Eliphalet Nott. Potter, D. D., LL. D., President of Hobart College, gave the address to the graduating class. The address to the Alumni was given by the Rt. Rev. A. Cleveland Coxe, D. D., LL. D.

After the exercises, the annual banquet was held at the Tifft House.

The Spring term will begin Monday, March 31st, and continue eight weeks. All correspondence relating to the Spring course should be addressed to Dr. DeLancey Rochester, Secretary, 469 Franklin street.

THE DIXON-JONES CASE.

Most of our readers are doubtless aware of the indictment and trial for manslaughter of Dr. Mary A. Dixon-Jones and her son, Dr. Charles N. Dixon-Jones, of Brooklyn, and of their acquittal after a most thorough, exhaustive, and elaborate trial. A Mrs. Ida Hunt died after an abdominal section in which diseased uterine appendages were removed, and this formed the basis of the indictment and trial.

The *Medical Record*, in its issue of March 1st, editorially says:

> The original indictment of the Grand Jury of King's County was founded upon a series of baseless charges, persistently reiterated in a Brooklyn journal of large circulation, bearing upon unskilful treatment of the case, wilful and culpable neglect of the ordinary obligations of humanity, and dark, mysterious, and even murderous doings in the management of the hospital with which she is connected. All these allegations, absurd as they were, inflamed the public mind against the doctor, almost ruining a hitherto untarnished reputation. When, however, the case came to trial, the real facts were brought out, and an unqualified and triumphant acquittal was the result.

We should be glad, did space permit, to reproduce the *Record's* stirring editorial entire, for it is a masterly exposition of the case, and condemns in fitting words the outrage that was sought to be perpetrated in the name of law and justice. We refer to the case now more particularly to call attention to the imperfect and unseemly manner in which these prosecutions are frequently—nay, generally—brought against reputable physicians, and to suggest that it is high time that

both the public press and the lawyers, even in this free American Republic, were more conservative in the exercise of their functions, when a slight mistake, or worse, a brutal blunder, may forever smirch a fair, untarnished reputation—that immortal part without which all else is bestial. But in this case, thanks to Judge Bartlett—a "most learned judge"—and to four or five good witnesses, who dared to do right, this poor, maligned woman and able physician has been permitted to preserve her good name and fame as a sweet inheritance for her noble son, whose manly attitude during this trying ordeal must everywhere command respect.

To Drs. Polk, Morris, Wylie, Coe, and Heintzman, of New York, and Joseph Price, of Philadelphia, the profession owes an everlasting debt of gratitude for their disinterested and able support of the right, which enabled court and jury to reach a just solution of this legal (?) monstrosity, and thus preserve the dignity of two outraged though learned and noble professions.

A PROPOSED REFORM IN MEDICAL EDUCATION.

A SHORT time ago representatives of the faculties of the Baltimore Medical Colleges, held a meeting to consider how best to effect much needed reforms in medical education. As a result of the discussion on this occasion, they decided that the terms of study requisite for obtaining a diploma should be extended from two to three years, and that a national convention of medical schools should be formed in order to do away with the poor colleges, and still poorer students, who are entering the profession in great numbers each year. They decided to send out a circular to all the medical colleges in the United States, calling for a national conference. This circular briefly advocates concerted action on the part of all colleges in the country, believing that the schools of any state alone cannot expediently or practically assume alone the responsibility of adopting advanced methods. Faculties of other colleges are, therefore, invited to join in aiding this cause, by sending delegates to represent them, at a meeting, to be held at Nashville, Tenn., on the 21st day of May, 1890, at 3 P. M., at the time of the meeting of the American Medical Association. The following subjects are considered as most likely to come up for discussion:

1. Three years' course of six months' sessions.
2. Graded curriculum.
3. Written and oral examinations.
4. Preliminary examination in English.
5. Laboratory instruction in chemistry, histology and pathology.

We sincerely hope that the faculties of the various colleges may show their desire to effect these reforms, by sending well-instructed delegates to represent them, and that the conference of the same may lead to the adoption of such measures as are now urgently required. The degree of M. D. has almost as variable a significance to-day in this country as that of B. A., which we all know, may mean much or next to nothing at all. The country is becoming flooded with incompetent practitioners who impede the progress of the deserving, on account of the inability of the laity to discriminate between the scientific and the unscientific doctor, and who are constantly bringing our profession into disrepute.

In this connection it is of interest to note that the Faculty of Starling Medical College, of Columbus, O., has determined that three years of medical instruction shall be required by that institution of all candidates for the degree of Doctor of Medicine, after the season of 1890–91. A similar requirement has been imposed by the Faculty of the Hospital College of Medicine, Louisville, Ky.

While these gratifying indications of reform in medical education are appearing in the West, let us hope that the State of New York will take no step backward. If the effort to repeal the law of last year requiring a preliminary Regent's examination of all matriculates in medicine, should be successful (as we hear there is danger of), it would be a sad commentary on the intelligence of the legislators of the Empire State; and, in that direful event, it would require much argument to convince the friends of medical educational reform that some persons in high places had not been "monkeying with the machine."

NIAGARA UNIVERSITY—MEDICAL DEPARTMENT.

The present college term in this institution will cease April 15th. The examination of students by the Board of Examiners for the degree of Doctor of Medicine, will take place on that day at 10 A. M. The commencement exercises will be held at the Star Theatre in the evening. Dr. L. S. McMurtry, of Louisville, Ky., whose reputation as a gynecologist extends far beyond the confines of this continent, will deliver the address to the Alumni, and Rev. Henry A. Adams, the popular and eloquent rector of St. Paul's Church, in this city, will give the address to the graduates.

The Alumni Association will meet on the same day, the morning session being held at the College on Ellicott street. Prof. Herbert Mickle will give the address of welcome, and Dr. Geo. W. T. Lewis the President's address. At the Y. M. C. A. Building, on West

Mohawk street, the afternoon session will be held, and papers of great interest and value will be read by Surgeon William S. Tremaine, U.S.A., Emeritus Professor of Surgery, entitled, Remarks on the Treatment of Fibroid Tumors of the Uterus; Dr. Joseph Hoffman, of Philadelphia, on The Treatment of Lesions at and about the Head of the Colon; and Dr. Burt G. Wilder on The Sub-frontal Gyre (Broca's Convolution) in Man and Apes.

The Alumni banquet will follow at the conclusion of the graduating exercises.

The Spring course of lectures will open on Monday, April 21st, and continue four weeks.

Society Meetings.

THE TENTH INTERNATIONAL MEDICAL CONGRESS.

110 West 34th Street,
NEW YORK, March 7, 1890.

Editors Buffalo Medical and Surgical Journal:

I am directed by the Secretary-General of the Tenth International Congress to give the greatest possible publicity to the circular, the main points of which I herewith transmit to you, with the request that they be published.

Very respectfully yours,

A. JACOBI, M. D.

INVITATION FOR AN INTERNATIONAL MEDICAL AND SCIENTIFIC EXHIBITION.

In connection with the Tenth International Medical Congress, to be held in Berlin, between the 4th and 10th of August, 1890, there is to be an International Medical and Scientific Exhibition. The exhibits will be of an exclusively scientific nature, as follows:

New or improved scientific instruments and apparatuses for biological and strictly medical purposes, inclusive of apparatuses for photography and spectral analysis as far as applicable to medicine.

New objects and preparations in pharmacological chemistry and pharmacy.

New foods.

New or improved instruments subservient to any of the departments of medicine, including electrotherapy.

New plans and models for hospitals, convalescent homes, and disinfecting and bathing institutions and apparatuses.

New arrangements for nursing, including transportation, baths, etc.

New apparatuses in hygiene.

Applications or inquiries inscribed "Ausstellungs-Angelegenheit," and accompanied with a printed card containing the name and address of the firm

thus applying, ought to be directed to the Secretary-General, Dr. O. Lassar, Carlstrasse, No. 19, Berlin, N. W., Germany.

R. VIRCHOW, President.
E. VON BERGMANN, E. LEYDEN, W. WALDEYER, Vice-Presidents.
O. LASSAR, Secretary-General.

AMERICAN MEDICAL ASSOCIATION.

THE Forty-first Annual Session will be held in Nashville, Tenn., on Tuesday, Wednesday, Thursday, and Friday, May 20th, 21st, 22d, and 23d, commencing on Tuesday at 11 A. M., under the Presidency of Dr. E. M. Moore, of Rochester, N. Y.

ADDRESSES.

On General Medicine, by Dr. N. S. Davis, Chicago, Ill.

On General Surgery, by Dr. Samuel Logan, New Orleans, La.

On State Medicine, by Dr. Alfred L. Carroll, New York, N. Y.

Committee on Arrangements: Dr. Wm. T. Briggs, Chairman, Nashville, Tenn.

SECTIONS.

"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including suggestions in regard to improvements in methods of work, and present the same to the Section over which he presides on the first day of its annual meeting. The reading of such address not to occupy more than forty minutes"—*By-Laws.*

Practice of Medicine, Materia Medica, and Physiology: Dr. J. H. Musser, Chairman, Philadelphia, Pa.; Dr. H. McColl, Secretary, Lapeer, Mich.

Obstetrics and Diseases of Women: Dr. W. W. Potter, Chairman, Buffalo, N. Y.; Dr. J. Hoffman, Secretary, Philadelphia, Pa.

Surgery and Anatomy: Dr. B. A. Watson, Chairman, Jersey City, N. J.; Dr. J. B. Deaver, Secretary, Philadelphia, Pa.

State Medicine: Dr. J. B. Hamilton, Chairman, Washington, D. C.; Dr. F. S. Bascum, Secretary, Salt Lake City, Utah.

Ophthalmology: Dr. S. C. Ayres, Chairman, Cincinnati, Ohio; Dr. E. J. Gardner, Secretary, Chicago, Ill.

Laryngology and Otology: Dr. J. O. Roe, Chairman, Rochester, N. Y.; Dr. F. H. Potter, Secretary, Buffalo, N. Y.

Diseases of Children: Dr. Isaac N. Love, Chairman, St. Louis, Mo.; Dr. E. F. Brush, Secretary, Mount Vernon, N. Y.

Oral and Dental Surgery: Dr. J. L. Williams, Chairman, Boston, Mass.; Dr. E. S. Talbot, Secretary, Chicago, Ill.

Medical Jurisprudence: Dr. T. B. Evans, Chairman, Baltimore, Md.; Dr. T. D. Crothers, Secretary, Hartford, Ct.

Dermatology and Syphilography: Dr. ——, Chairman, ———; Dr. W. T. Corlett, Secretary, Cleveland, Ohio.

"A member desiring to read a paper before a Section should forward the paper, or its *title and length* (not to exceed twenty minutes in reading), to the Chairman of the appropriate Section at least one month before the meeting."—*By-Laws.*

WILLIAM B. ATKINSON,
Permanent Secretary,
Philadelphia, 1400 Pine street, S. W., cor. Broad.

The Medical Association of the State of Alabama will hold its next meeting in Birmingham, April 8, 9, 10, and 11, 1890. Among the several titles of value that are announced, we note that Dr. W. E. B. Davis, of Birmingham, will read a paper entitled, A Study of the Treatment of Local and General Peritonitis.

The National Association of Railway Surgeons will hold its second annual meeting at Kansas City, Mo., commencing Thursday, May 1, 1890.

The Tennessee State Medical Society will hold its annual meeting in Memphis, April 8, 9, and 10, 1890.

The Iowa State Medical Society will hold its thirty-ninth annual meeting at Des Moines, April 16, 17, and 18, 1890.

Personal.

Dr. C. B. Kibler, of Corry, Pa., one of the most celebrated physicians in Western Pennsylvania, paid a visit to Buffalo last month to attend the final examinations of the Buffalo Universiy Medical College, of which he is one of the curators. Dr. Kibler will visit Europe during the coming Summer, expecting to reach Berlin in season to attend the International Medical Congress, after which he will spend some time in the clinics, and return to this country in the late autumn.

Dr. Roswell Park, of this city, accompanied by Mrs. Park, sailed for Europe, March 19, 1890, for a period of recreation and study. Dr. and Mrs. Charles G. Stockton will follow early in April,

and we presume both Drs. Park and Stockton will attend the International Congress in Berlin. They are expected to return in season to resume their professional and college work in the early autumn.

Dr. Clinton Cushing, of San Francisco, sailed for Europe on March 4th, to be absent six months. Dr. Cushing will enjoy a much needed rest, renew his acquaintance with his many European friends, attend the International Medical Congress at Berlin, and return in season to participate in the society and college work that begins in the early autumn.

Dr. Crego is still at Berlin, and is in the Polyclinic of Prof. Mendal for Nervous Diseases. From here the Doctor goes to Prof. Charcot's Clinic at Paris; from Paris he goes to London, and on his return he will spend a short time in New York at the Roosevelt Nervous Clinic.

Book Reviews.

Wood's Medical and Surgical Monographs. Published monthly. Vol. V., No. 1, January, 1890. Vol. V., No. 2, February, 1890. Vol. V., No. 3, March, 1890. Price, $10.00 a year; single copies, $1.00. New York: William Wood & Co. 1890.

I. The series for 1890 begins with an article on Neuralgia: Its Etiology, Diagnosis, and Treatment, by W. R. Gowers, M. D., F. R. C. S., which, though short, is full of interest, and should be read by every general practitioner. The other titles in this number are The Prognosis of Diseases of the Heart, by Prof. E. Leyden, of Berlin; The Sputum: A Contribution to Clinical Diagnosis and Practical Examination for Tubercle Bacilli, by Peter Kaatzer, M. D.; Hypnotism: Its Significance and Management briefly presented, by Dr. August Forel; and The Forms of Nasal Obstruction in Relation to Throat and Ear Diseases, by Greville Macdonald, M. D. This latter article takes up sixty-four pages of the book, and is of special interest to the larynogologist and otologist. This seems a convenient place for us to remark that there would appear no good reason why the laryngologist should not also practice otology, for the two branches are in close anatomical and sympathetic relations, whereas the ear has no such relation to the eye.

II. The February issue is made up as follows: The Formation and Excretion of Uric Acid, as Elucidating its Action in the Causation

of Disease, by A. Haig, M. A., M. D.; The Initial Stages of Consumption: Their Nature and Treatment, Including Dietetic Suggestions, by Horace Dobell, M. D.; Ectopic Pregnancy and Pelvic Hematocele, by Lawson Tait, F. R. C. S., Edin. and Eng., etc. The chief interest in this number centers in Mr. Tait's masterly elucidation of one of the most important questions of the day, and the publishers have been most wise in their placing it within the reach of the entire profession. In the March number of this JOURNAL for 1889, (Vol. XXVIII., p. 462,) we reviewed this subject *in extenso* from the author's English edition, of which this monograph is a reprint, and to that we refer the reader for much of interest in connection with the subject of ectopic gestation.

III. The March number contains the following monographs: Treatment of Cancer by Electricity, by J. Inglis Parsons, M. D.; The Dreadful Revival of Leprosy, by Sir Morell Mackenzie, M. D.; Disease of Old Age, by Dr. A. Seidel; Urinary Neuroses of Childhood, by Dr. Louis J. Guinou; Varicose Veins of the Lower Extremities, by William H. Bennett, F. R. C. S.; The Uses of Electrolysis in Surgery, by W. E. Stevenson, M. D. Numerous illustrations, and an index, make Volume V. a fit companion to its predecessors.

A Text-Book of Obstetrics, including the Pathology and Therapeutics of the Puerperal State. Designed for Practitioners and Students of Medicine. By Dr. F. WINCKEL, Professor of Gynecology and Director of the Royal Hospital for Women; member of the Supreme Medical Council, and of the Faculty of Medicine in the University of Munich. Translated from the first German edition under the supervision of J. Clifton Edgar, A. M., M. D., Adjunct Professor of Obstetrics in the Medical Department of the University of New York. 190 illustrations. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1890.

The present work is a valuable contribution to the literature of obstetrics. Few writers have such an inexhaustible store-house of experience from which to draw in the preparation of a suitable text-book for students and practitioners. We think Dr. Winckel has made good use of the material at hand, and also presented the matter in a form to benefit the class of readers to whom he especially directs his attention. In his preface the author states that the "material upon which this book is based" includes cases seen in his own private practice, as well as that of his father and grandfather, and embraces a series of more than 20,000 labors, over 600 of which were purely operative, and 17,200 were taken from his own clinics since 1864.

It may be expected that the work would be eminently practical, while the professional attainments of the author would lend to it a highly scientific character.

The author divides the work into eight parts, the first part being devoted to the physiology and management of pregnancy; the second to the physiology and management of labor; the third, the physiology and management of the puerperal state; the fourth, the pathology and therapeutics of pregnancy; the fifth, the pathology and therapeutics of labor; the sixth, obstetric operations; the seventh, the pathology and therapeutics of the puerperal state; the eighth, the pathology and therapeutics of diseases of the new-born.

Under these "Parts," the author divides the subject into many sections, and thus presents a very methodical and lucid exposition of the science and art of obstetrics, which will assist the accoucheur in his practical work, and also the students in securing a clear, comprehension of this important department of medical science.

It may be stated that the publishers, in presenting to the profession this translation of an important work, have done a valuable service, for which a recognition will surely follow, in its appreciation by both practitioners and students, for whom it is designed.

Monthly Nursing. By A. WORCESTER, A. M., M. D., Fellow af the Massachusetts Medical Society; Physician to the Waltham Hospital. Second Edition. 12 mo, p. 250. New York: D. Appleton & Company. 1890.

When the first edition of this book appeared a few years ago, it was well received, and we are of the opinion that it merited the favor of the profession, and the nurses for whom it was more especially written. The author has had a large experience in obstetric practice, and in the training of nurses for this special field. That a second edition has become necessary, speaks in support of its value, even more than any journalistic endorsement. It is full of good teaching for the obstetric nurse, and may well repay perusal by physicians. It is one of the first books of its kind that we have seen, and we advise all nurses to study it with care. In an appendix will be found much of importance, and it is a well-printed, handsome volume.

Lehrbuch der Hebammenkunst. Von Dr. BERNHARD SIGMUND SCHULTZE, Geheim-Hofarth, öff. ord. Prof. der Geburtshülfe, Director der Entbindungsanstalt und der Hebammenschule zu Jena, Mitglied der Medical Commission des Grossherzogth, Sachsen. Leipzig: Verlag von Wilhelm Englemann. 1889; pp. 380.

The ninth edition of this popular work is now presented to the German midwives, and, judging from the reception given the former editions, this ninth will be as enthusiastically received.

The midwife plays a more important rôle in Germany than in America, and is considered a part of the medical profession. It is no

wonder, then, that such excellent treatises as Schultze's should be written especially for them. The language is free from technicalities, the construction simple and interesting, the illustrations pointed and lucid. The book is divided into paragraphs, each one taking up a certain point and discussing it briefly, but sufficiently to convey to the midwife the idea of the author. The descriptions of the various phases, with instructions how to act, the duties and obligations of the midwife to the patient and physician, are forcibly expressed, and, if carried out, must make her an important factor in the obstetrical art.

The typographical work, including the execution of the wood-cuts —ninety-six in number—is of the first quality, and is a good specimen of the excellent work done at Leipzig. W. C. K.

On the Animal Alkaloids. The Ptomaines, Leucomaines and Extractives in their Pathological Relations. By SIR WILLIAM AITKEN, KNT., M. D., L. L. D., F. R. S., Professor of Pathology in the Army Medical School. Second Edition. Pp. 105. Philadelphia: P. Blakiston, Son & Co. 1889.

The important position which the subject of ptomaines and leucomaines has taken in the theory of disease, renders a knowledge of these important substances, and their toxic effect upon the human system, an imperative necessity to the physican of to-day.

Prof. Aitken has given us an excellent little work upon the subject, and it should be carefully read by every physician who wishes to keep abreast of the scientific work and thought of the period.

This little work is terse, concise, and filled with excellent thoughts and suggestions. We most heartily recommend it to the careful perusal of every wide-awake physician. J. A. M.

A Guide to the Diseases of Children. By JAMES FREDERICK GOODHART, M. D., F. R. C. P. Physician to Guy's Hospital, and Lecturer on Pathology in its Medical School, etc. Rearranged, revised, and edited by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia, etc. Second American, from the Third English Edition with numerous formulæ and illustrations. 8vo, cloth, pp. viii., 772. Philadelphia: P. Blakiston, Son & Co. 1889. Buffalo: Peter Paul & Bro.

The first edition of this work was so well received and appreciated, that it only seems necessary to call attention to the appearance of the second edition, to insure for it a rapid demand. The American editor, Dr. Starr, has maintained in the present volume the valuable features of the former one, and has added some improvements which will increase its worth. He has rearranged it to some extent, left out the brackets indicating his additions, and added some illustrations. It is pleasant to find that the author appreciates the work of Dr. Starr, and

has accepted some of his suggestions. There may be more exhaustive treatises on the subject of the Diseases of Children, but there is no better "guide," either for the student or busy physician, than the present volume. The book is presented in a pleasing form; the type, especially, is large and clear, the paper and binding excellent.

F. H. P.

The Cure of Crooked and Otherwise Deformed Noses. By JOHN B. ROBERTS, M. D. Professor of Anatomy and Surgery, in the Philadelphia Polyclinic; Lecturer on Anatomy in the University of Pennsylvania, etc. 8vo, cloth, pp. 24; Philadelphia: P. Blakiston, Son & Co. 1889.

This is simply a reprint of an address delivered before the Philadelphia County Medical Society, and published in the BUFFALO MEDICAL AND SURGICAL JOURNAL, for July, 1889. It is a good review of the subject from the standpoint of the general surgeon, though there are some things the specialist would take exception to. The punch and pin operation for instance, for the relief of septal deformity, is not nearly as good for the majority of cases as the saw operation of Bosworth. The article, however, as a whole, is judicious and comprehensive.

F. H. P.

BOOKS AND PAMPHLETS RECEIVED.

Practical Electricity in Medicine and Surgery. By G. A. Liebig, Jr., Ph. D., Assistant in Electricity, Johns Hopkins University, etc., and George H. Rohé, M. D., Prof. of Obstetrics and Hygiene, College of Physicians and Surgeons, Baltimore, etc. Profusely illustrated. 8vo. pp. viii., 383. Philadelphia and London: F. A. Davis, publisher. 1890. Price, $2.00.

The Neuroses of the Genito-Urinary System in the Male, with Sterility and Impotence. By Dr. R. Ultzman, Professor of Genito-Urinary Diseases in the University of Vienna. Translated by Gardner W. Allen, M. D., Surgeon to the Genito-Urinary Department, Boston Dispensary. 12mo pp. 160. Philadelphia and London: F. A. Davis. 1889. Price, $1.00.

A Text-Book on Diseases of the Eye. By Henry D. Noyes, A. M., M. D., New York: William Wood & Company. 1890. Imperial octavo. Price, $6.00, Muslin; $7.00, Half Russia.

Essentials of Disease of the Skin, including the Sypholodermata. Arranged in the form of questions and answers, prepared especially for students of medicine. By Henry W. Stelwagaon, M. D., Ph. D., Attending Physician to the Philadelphia Dispensary for Skin Diseases, etc. With seventy-four illustrations. Philadelphia: W. B. Saunders. 1890.

The Examination of Urine, Chemical and Microscopical, for Clinical Purposes. By Lawrence Wolff, M. D., Physician to the German Hospital of Philadelphia, etc. Colored plate and numerous illustrations. Saunders' Question Compends. Philadelphia: W. B. Saunders. 1890. Price, 75 cents.

Essentials of Gynecology, arranged in the form of questions and answers, prepared especially for students of medicine. By Edwin B. Cragin, M. D., Attending Gynecologist to the Out-Patient Department of Roosevelt Hospital, etc. With fifty-eight illustrations. Philadelphia: W. B. Saunders. 1890.

What are the Rational Limitations of Intra-Uterine Therapeutics? By Andrew F. Currier, M. D. Reprint from the New York *Medical Journal* for February 15, 1890.

Thirteenth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y., for the year ending September 30, 1889. Auburn: Wm. J. Moses, Printer.

Proceedings and Addresses at a Sanitary Convention held at Pontiac, Mich., Oct. 17 and 18, 1889. Proceedings and Addresses at a Sanitary Convention held at Vicksburg, Mich., December 5 and 6, 1889. (Supplements to the Report of the Michigan State Board of Health for 1889.) By authority. Lansing: Davens D. Thorp. 1890.

The Animal Suture: Its Place in Surgery. By Henry O. Marcy, A. M., M. D., L. L. D. Reprint from the Transactions of the American Association of Obstetricians and Gynecologists, Philadelphia. Wm. J. Dornan. 1889.

The Cure of Hemorrhoids by Excision and Closure with the Buried Animal Suture. By Henry O. Marcy, A.M., M. D., L. L. D., Boston, Mass. Reprinted from the Annals of Surgery, 1889.

Literary and Other Notes.

THE *Cosmopolitan* for April presents an unusually interesting number. An article on The Fighting Forces of Germany, by Pultney Bigelow, that is most handsomely and accurately illustrated, opens a series of most entertaining and instructive magazine articles. The Land of the White Elephant, by Frank G. Carpenter, is another attractively written and beautifully illustrated paper. But what shall be said of Elizabeth Bisland's A Flying Trip Around the World? The chaste and elegantly simple English with which Miss Bisland tells her story, the first stage of which is here related, at once charms the reader and wins a sympathy for a young woman of culture and refinement, who was persuaded, much against her will, to make a tour that has suddenly brought her out into the blazing sunlight of publicity. How well she stands the glare, and with what womanly modesty she endures a distasteful notoriety for the sake of the cause in which she is embarked, can only be ascertained by reading her own story as told in the magazine to which she is so devoted.

The other attractions of the number we must perforce omit to mention for lack of space.

THE production of Ernest Reyer's new opera, "Salammbo," at Brussels, is the most important musical event that has thus far happened this year in Europe. A comprehensive account of this remarkable work, together with the estimates placed upon it by the best European critics, a bright personal sketch of the composer, an admirable portrait of him, and a reproduction of the music of one of the gems of the score constitute the leading attraction of the *Transatlantic* of March 15th. Almost equally remarkable is a review in the same issue of the Socialist party in Germany, which the recent elections in that country brought forward so prominently. The conclusion of Guy de Maupassant's "Vagrant Life," the continuation of the serial, "On the Mountain," a new criticism of Zola by the great Russian reviewer, Michailovsky, and an account of the discovery of a new Rembrandt in France, complete an attractive table of contents. 328 Washington street, Boston. $2.00 a year.

GYNECOLOGY.—There is probably no word in such common use that is so abused in its pronunciation as gynecology, and we are pleased to observe such a simple rule for its pronunciation as Dr. Hartshorn gives in his review of Billings' Dictionary in the April number of the *American Journal of Medical Sciences*. Says Dr. H.:

> It is to be wished that Dr. Billings, like Dr. Joseph Thomas in his excellent *Medical Dictionary*, had indicated the sound of g at the beginning of words. He might thus have aided in the now frequent mispronunciation of gynecology, which ought to have in its first syllable the sound of gy, as in gymnastics; not, as we often hear it, like the sound of gui in guide.

P. BLAKISTON, SON & CO., Philadelphia, published, about March 15th, a new Medical Dictionary, by George M. Gould, A.B., M.D. It is a compact one-volume book, containing several thousand new words and definitions, collected from recent medical literature, while the total number of words is beyond that in any similar book. It includes also elaborate and useful tables of the Bacilli, Leucomaïnes, Ptomaïnes, Micrococci, etc.; of the Arteries, Nerves, etc., and of the Mineral Springs of the United States, together with other collateral information.

TRANSACTIONS OF SPECIAL SOCIETIES FOR 1889.—A number of these volumes have already been issued, and are offered for sale through the book trade, or will be furnished on application to the printer, Mr. William J. Dornan, 100 North Seventh street, Philadelphia. Mr. Dornan is probably the most experienced medical society transactions printer in the country, and we invite attention to his advertisement, on page xxx.

THE RESIDENCE AND OFFICE OF DR. EPHRAIM McDOWELL IN DANVILLE, KENTUCKY, WHERE IN 1809 THE FIRST OVARIOTOMY WAS PERFORMED.

From a photograph presented to the JOURNAL by Dr. Fayette Dunlap, of Danville, Kentucky.

Buffalo Medical and Surgical Journal

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Original Communications.

INTERNAL ŒSOPHAGOTOMY.

THE REPORT OF A CASE.

By JOHN O. ROE, M. D., Rochester, N. Y.,

Chairman Section of Laryngology and Otology, American Medical Association; Fellow of the American Laryngological Association, etc.

The operation of internal œsophagotomy is so rarely performed that any details concerning it cannot fail to be of interest. Previous to the case now reported, there had been but twenty cases recorded, two of which were performed by the writer of this article. In these two previous cases mentioned,[1] as well as in the one now reported, the operation was performed for the relief of aggravated fibrous or cicatricial stricture of the œsophagus, and was in each case attended with complete success.

An earlier report of the present case was read before the American Laryngological Association, in September, 1888.[2] The present report contains not only the details of the case as presented at that time, but also the further progress of the case, and the present condition of the patient, which gives an enhanced value to the record of this operation.

Mrs. M. L. O., forty-eight years of age, was referred to me, June 3d, 1887, by Dr. Pardee, of Fulton, N. Y., on account of a serious obstruction to deglutition from which she had suffered for fourteen years.

The onset of the dysphagia was very sudden. One afternoon, while eating a chicken sandwich, a piece of the chicken lodged in her throat and caused her to choke quite violently. The chicken she believed to be entirely free from bones, but such could hardly have been the case, for it would seem scarcely possible for a piece of chicken, free from bone or cartilage, to injure the œsophagus sufficiently, or to lodge in it long enough, to excite inflammation or ulceration to the extent necessary to cause the membranous or cicatricial formation presently to be described.

1. The Medical Record, New York, 1882. Vol. XXII., p. 536.
2. Transactions of the American Laryngological Association, 1888, p. 46.

As contributing to the history of this case, I would say that the patient told me of a fall that she had had about six months before this choking occurred. She was thrown from a sleigh upon a sharp ridge of ice, striking on the back of her neck. She believed that she came very near dislocating her neck, as it was very painful and lame for several weeks; and, for a year afterward, she could not turn her head to look behind her, or to look up, without putting her hand to the back of her head to support it. Whatever influence may be attributed to the fall in developing an abnormal condition in the œsophagus, it is still clear that the acute trouble exhibited itself only as a result of the lodgement of the foreign substance just mentioned in the upper part of the œsophagus.

After the choking above described had subsided, the patient found she was unable to swallow any solid substance whatever, and this difficulty continued until the time I saw her. She was, however, able to swallow liquids and semi-solids very slowly, but a solid substance as large as a tomato seed would lodge in her throat and cause her much discomfort until it was expelled. In such a case she would often be obliged to nauseate herself, and sometimes to produce vomiting by running her finger down her throat.

The nutriment which she was able to take consisted of milk, soups, broths, and the like. She could, also, take bread, cake, potatoes and such substances as could be softened and thoroughly incorporated in milk or broth. Everything, however, excepting clear milk, she insisted on being strained, lest it might contain some solid particle that would lodge in her throat. On taking the nourishment, she would place the substance in the back part of her mouth, throw her head slightly back and allow it to run down very slowly. Efforts at swallowing would afford but little assistance.

In this manner she had been able, during these fourteen years, to sustain herself fairly well. The obstruction was, however, slowly increasing and she was, at the same time, losing flesh and strength. Swallowing had now become so difficult that it occupied all her time during the day to get down sufficient nutriment to appease her hunger. She is a tall woman, five feet five and a half inches in height, and has always been rather slender. Her weight, previous to the commencement of this trouble, was 135 pounds; but it was, at the time I first saw her, reduced to 108 pounds.

On attempting to explore her œsophagus with an ordinary small, conical pointed œsophageal bougie, 4 mm. in diameter, the bougie was arrested two and a half inches below the entrance to the œsophagus. I then tried to pass a fine whalebone filiform bougie, 1 mm. in diameter, but also without success. I then employed a small metal olive-shaped bougie, 2 mm. in diameter, mounted on a small copper stem. With this flexible stem, bent in various directions, I finally succeeded in finding the opening. It was located at the extreme left side of the œsophagus, so that the bougie, when in the passage, lay close against the left posterior pillar of the fauces. This success in finding the opening was very gratifying not only to

the patient but to myself as well, for the reason that so many attempts to find the passage had been made by different surgeons without success. Her œsophagus was very sensitive to the introduction of instruments, so much so that much irritation and some pain followed the first exploration. This irritation, however, subsided in a short time with the aid of a little morphine, locally applied; and on the second day afterward, the same bougie was introduced with little or no irritation. This was followed up by slightly larger bougies, until one 6 mm. in diameter could be passed.

For a short time after each dilatation deglutition was improved; but the stricture would soon contract to its former size. Daily dilatation was, nevertheless, persevered in for three weeks, without any additional gain. I then decided to divide the stricture by internal incision, as the easiest and best way of dealing with it. With a bulbous bougie, I determined the vertical extent of the stricture to be about 3 mm. Below this point the œsophagus was entirely free.

By means of the half-round or "demi-bulbous" bougie, I determined that the stricture occupied about two-thirds of the circumference of the œsophagus on the right side. This is the form of bougie I used in my other cases. It was devised by Trelat[1] in 1870. It is of the utmost value in determining the depth of the projecting portion of the stricture, and the point where the incision should be made. The bulb of this bougie is made flat on one side and half-round on the other, forming a half sphere.

It is readily seen that when the bulb is introduced beyond the stricture and withdrawn, if the bulbous side is turned towards the projecting portion of the stricture, it will meet with resistance proportionate to the size of the bulb and to the distance that the edge of the stricture projects beyond the line of the wall of the œsophagus. If the bulb is turned to the flat or straight side of the œsophageal wall, and the flat side of the bulb to the strictured side, no resistance is felt on withdrawing the bulb. If the stricture projects equally on all sides, the same resistance will accordingly be felt when the bulb is turned to either side. After thus carefully determining the location and extent of the stricture and the depth I wished to make the incision, I introduced the œsophagotome and made an incision 2 mm. deep through the most projecting portion of the stricture on the right side. The blade met with a little resistance, indicating that the tissue composing the stricture was moderately firm and dense. The operation caused but little pain, mainly of a stinging sensation, and there was but little

1. *Bulletin Général de Therapeutique Med. et Chirurg.*, Paris, 1870, tome lxxviii., p. 262.

hemorrhage, three or four expectorations only being mixed with blood. During the following twenty-four hours the patient was permitted to take only a small quantity of milk. There was no pronounced pain or inflammation; and on the second day dilatation was begun to prevent the re-union of the cut surfaces. A bougie 10 mm. in diameter could now be passed quite easily and deglutition was much improved, although no solids could yet be taken.

In one week (July 2d) I repeated the incision, dilatation having failed to increase the opening beyond the 10 mm. At this operation the incision was made back of the former one, the blade being turned backward about 35°. This incision was made 1½ mm. in depth. It caused scarcely any pain, and only a few drops of blood were seen. The treatment after this incision was the same as that before described. A bougie could now be passed 12 mm. in diameter, and deglutition was correspondingly improved. Dilatation was now continued for ten days, with the result of increasing the opening to admit a bougie 13 mm. in diameter.

On July 12th another incision was made like the last one, but on the opposite side of the stricture. A bougie 15 mm. in diameter could now be admitted. Dilatation was continued and on July 19th, one week later, an incision 2 mm. deep was made in the center, between the first and second incisions, and, on July 26th, a fifth incision 2 mm. deep was made between the first and third incision. The last two operations were about the same in every particular as the first one.

After the last incision, a bougie 20 mm. in diameter was passed through quite easily, and the patient was able to take all the solid food she desired without difficulty. The caliber of the œsophagus at the place where the stricture had been was so near its normal size, that further operations were deemed unnecessary. Dilatation was, however, continued daily to prevent any re-contraction during the process of healing.

At the end of three weeks, there was no narrowing of the tube, and the patient went home for four weeks. She was then to return for examination. During this interval, she herself continued daily the dilatation of the stricture with a bougie which I had taught her to introduce. When she returned, I found that a very slight contraction had taken place, but only sufficient to cause the bougie to go through very snugly.

This contraction was, however, overcome by using a bougie 1½ mm. larger. Some force was required to pass this one at first, but the contraction soon yielded.

The form of bougie which I employed in this case, and which I taught the patient to introduce for herself, was made of hard rubber, two and a half inches long, tapering at both ends alike, the middle portion cylindrical, and mounted on a whalebone stem. The distal end of this bougie was tipped with a flexible gum-elastic and conical-pointed bougie, to facilitate the passage of the hard-rubber portion through the fauces, and to direct it into the œsophagus.

This form of bougie I had devised a year before (in 1886) for the dilatation of strictures at the lower end of the œsophagus in a patient brought to me by Dr. F. D. Vanderhoof, of Phelps, N. Y. In this case, however, it soon became apparent that the stricture was caused by malignant disease, hence internal œsophagotomy was not attempted.

The addition of this flexible conical tip to the hard-rubber bougie is of special advantage in many cases of œsophageal stricture. The small flexible point very readily directs the bougie into the stricture, and the long acute angle of the tip prevents irritation and the necessity of using as much force as would be necessary to carry the dilatation to the same extent with the ordinary short, blunt, olive-shaped bougie.

The advantage of this bougie with a whalebone stem over the long gum-elastic bougie is that the hard rubber is far better for dilating, and the slender whalebone stem readily allows the retention of the bougie for a time sufficient to get the benefit of a longer continued pressure, which the long gum-elastic bougie will not readily permit. It is also very much superior to the other form for dilating strictures low down in the œsophagus.

This flexible tipped hard-rubber bougie, like all other forms of bougies, is made in different sizes, to meet the requirements of different cases.

Since devising this form of bougie, I have employed it in preference to all others.[1]

The œsophagotome employed in this case, and also in my other two cases, is the form devised by Sir Morell Mackenzie, except that I have slightly modified it so that the blade can be more accurately adjusted, and the distance to which the blade will be thrown out at each introduction can be more accurately determined. This instrument has done for me most excellent service, and given results which leave nothing to be desired.

The result of this operation will be evident from a brief description of the condition of the patient subsequent to its performance.

1. For a more extended description of this bougie, and an illustration as it is now made, *vide New York Medical Journal*, October 26, 1889. Vol. L., p. 474.

Her general health began immediately to improve, and she recovered her normal weight of 135 pounds, and has since gained five additional pounds.

The dilatation of the œsophagus has remained permanent, and though she was instructed how to use the bougie in case of a relapse, she has not used the instrument but twice in a year and a half. Her throat may be reported as having regained almost its normal condition. No difficulty is experienced in swallowing her food, except, perhaps, in the case of large pieces of meat which have not been properly masticated.

The history of this case shows not only the advisability, but also the necessity, of this operation in those forms of stricture of the œsophagus in which the stricture is composed of more or less elastic tissues, and where it resists all ordinary forms of dilatation.

28 North Clinton Street.

RARE SEQUELÆ OF TYPHOID FEVER.

By LLEWELLYN ELIOT, M. D., Washington, D. C.

In an editorial of recent date in the *Medical and Surgical Reporter*[1] on the above subject, is the following:

> Neuritis, osteitis, and periostitis are comparatively rare sequelæ of typhoid fever. They are so rare that many of the books do not mention their occurrence; and this fact may have induced observers to set down occasional cases as mere coincidences, and thus the sequelæ appear to be rarer than they really are.

This editorial together with a rapid glance through some of the leading text-books on the practice of medicine has prompted me to bring forward a case of periostitis which came into my hands. I did not attribute the occurrence of this sequela to anything but the peculiarly depressed and exhausted condition of the patient, and might have dismissed it from my mind had I not seen the editorial above mentioned.

Hutchison[2] writes that he has seen only one case of periostitis following typhoid fever, and refers to several other cases reported by Sir James Paget[3] and by Gay.[4]

My own case briefly is as follows:

Mamie D ——, white, aged seventeen years, of good history, was treated for typhoid fever during the summer of 1887. The fever ran a regular course, and in

1. *Medical and Surgical Reporter*, Philadelphia, Vol. 61, p. 641.
2. Pepper's System, Medical, Vol. 1, p. 297.
3. St. Bartholomew's Hospital Reports, Vol. 21.
4. Path. Trans., London, Vol. 20, p. 290.

about four weeks she was convalescent. During the early days of her convalescence she complained of pains in the left index finger; soon swelling, tenderness and heat appeared, and finally, pus being suspected, on September 5th a free incision was made, revealing the presence of periostitis. The evacuation of the pus did not entirely relieve the symptoms and on September 26th the first phalanx was amputated. She recovered without further complication or inconvenience.

1106 P. Street, N. W.

Society Proceedings.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated meeting February 26, 1890.

The president, Dr. W. W. Keen, in the chair.

A SYMPOSIUM OF ABDOMINAL SURGERY.

FIRST PAPER.

OPERATIVE METHODS AS ILLUSTRATED BY THE HISTORY OF OVARIOTOMY IN AMERICA.

By LEWIS S. McMURTRY, M. D.,

Louisville, Ky.

(By invitation.)

The history of ovariotomy is the history of abdominal surgery. For many years after the establishment of this operation, abdominal surgery was limited to the removal of ovarian tumors. The knowledge and experience gained thereby led to other procedures, until the present proud position of peritoneal surgery was attained. Beginning in America in 1809, it has been persistently and zealously cultivated by American surgeons up to the present time. A retrospect of the origin, early history, struggles, and triumphs of this heroic branch of surgery is replete with instruction. That its pioneers were subjected to criticism and abuse, leading oftentimes to professional ostracism; that they were treated with incredulity, and charged with legalized murder; and throughout all this misrepresentation and persecution that they pursued the stern line of duty, are circumstances which make this the most thrilling chapter in the history of American surgery. It is the purpose of this paper to deal with methods rather than men, and to endeavor to deduce from the record some lessons bearing upon the practice of the present time.

In December, 1809, Dr. Ephraim McDowell,[1] at his home in Dan-

1. See frontispiece for an illustration of the home of McDowell, where his operations were performed.

ville, Kentucky, performed the first ovariotomy. The writer of this sketch was born and reared near this town, educated there, and resided there until recently. Having known since my boyhood the immediate family and former patients of Dr. McDowell, I have had exceptional opportunities to inform myself as to the operator and his work. In 1793 and 1794 McDowell was a student of medicine in Edinburg, where he was a pupil of John Bell. From this eminent teacher he learned the nature of ovarian tumors, and was informed of the perils which would be attached to any attempt at their removal. He knew that no surgeon, however great his skill, had ever attempted such a bold and perilous procedure. Fifteen years after his return to America, after attaining wide-spread celebrity as a surgeon, especially as a lithotomist, he performed his first ovariotomy. The operation, of course, was executed without an anesthetic. The incision was made to the left of the median line, about three inches external to the border of the rectus muscle, and was nine inches in length. After opening the peritoneum, he first tied the pedicle with a strong ligature, and then cut open the tumor and removed its contents. He then divided the pedicle and removed the sac. As soon as the incision was made into the abdomen, he states, the intestines rushed out upon the table, and were not replaced until the operation was completed, which, he adds, occupied twenty-five minutes. He then turned the patient upon the left side to allow all fluids to escape. He closed the incision with interrupted sutures, and brought out the ligature attached to the pedicle at the lower angle of the wound. Adhesive strips and a bandage completed the dressing; the patient was put to bed, and he prescribed "a strict observance of the antiphlogistic regimen." At the end of twenty-five days the patient returned home in good health.

The special features of McDowell's technique worthy of note are: (1) The incision was made through the muscular layers of the abdominal wall, three inches external to the rectus muscle. (2) The cyst was not evacuated until after the pedicle was ligated. (3) An effort was made to cleanse the peritoneum of fluids. (4) Drainage was sought by bringing the ligatures out at the lower angle of the wound. (5) The operation occupied only twenty-five minutes, expedition being more hastened, doubtless, by the absence of an anesthetic than otherwise.

McDowell operated thirteen times, with the result of eight recoveries and five deaths. In his report of his second case he uses the expression: "I laid her side open," as in the former case. In his third case he adopted the median incision, saying in his report of this case: "I changed my place of opening to the linea alba."

Dr. McDowell was a man of splendid presence and aristocratic bearing. He was quite a "dressy" man, neat in his appearance and cleanly in his person and habits. That McDowell appreciated the responsibility he had incurred, and was aware that he was establishing a great operation, destined to add lustre to the science and art of surgery, is apparent in the following extract from his reply to a Dr. Henderson, who had criticised McDowell's report for its want of "particular detail." Replying through the columns of the *Eclectic Repertory and Analytical Review*, of Philadelphia, McDowell says:

> I thought my statement sufficiently explicit to warrant any surgeon's performing the operation when necessary, without hazarding the odium of making an experiment, and I think my description of the mode of operating, and of the anatomy of the parts concerned, clear enough to enable any good anatomist, possessing the judgment requisite for a surgeon, to operate with safety. I hope no operator of any other description may ever attempt it. It is my most ardent wish that this operation may remain to the mechanical surgeon forever incomprehensible.

This quotation stamps McDowell as a surgeon of broad and elevated views, fully aware that he had opened a new and rich domain in surgery.

McDowell first operated in 1809, and in July, 1821, Dr. Nathan Smith, Professor of Surgery in Yale College, performed ovariotomy at Norwich, Connecticut. Dr. Smith had never heard of McDowell's work, and operated in an entirely original way. The incision was made in the median line, and was three inches in length. He states that he waited until the blood ceased flowing before he opened the peritoneum. The omentum being adherent, he tied it away with ligatures made from a kid glove. The pedicle was also tied with the same material, the ligatures cut short, the pedicle dropped, and the incision closed. The patient made an uninterrupted recovery, and sat up and walked at the end of three weeks. Dr. Smith undertook another operation for ovarian tumor, but desisted on account of adhesions, and closed the incision. The patient recovered from the operation. Notable features of his technique were: (1) the short incision; (2) protection of the peritoneum from the blood of the incision; (3) ligature of omental adhesions; (4) ligature of pedicle, ligature cut short, and pedicle dropped; (5) animal ligatures.

Dr. Alban G. Smith, of Danville, Kentucky, was the third to perform ovariotomy. He assisted McDowell in several of his operations, and operated on May 23, 1823. He reported the operation in the *North American Medical and Surgical Journal*, January, 1826. He followed McDowell's method in operating, and brought the ligature out through the lower angle of the wound. His patient recovered. That surgical opinion and practice often travel in a circle is aptly

illustrated by the fact that he administered a decoction of senna to the patient the night after the operation, producing free evacuations the next day, and several the day after. Peaslee mentions this to illustrate the crude methods of early days. We all know now that such medication is based on sound principles, and Dr. Alban G. Smith would, if living, find himself thoroughly *en rapport* with the most advanced methods of the day.

McDowell died in 1830. Nathan Smith did not press his work further after his second operation, which was only an exploratory incision. From this period until 1843 the operation lapsed into obscurity, and was practically abandoned by the profession. A few brave surgeons would occasionally attempt it only to abandon their purpose when adhesions were encountered. Among these were Trowbridge, of New York; Mussey, of Dartmouth; and a few others. In 1829, Rogers, of New York, operated successfully, adopting the method of treating the pedicle which Nathan Smith had practised. Billinger, of Charleston, S. C., operated successfully in 1835, trying the pedicle with animal ligatures, cut short, and pedicle dropped, after Nathan Smith's method. From 1835 until 1843 there were absolutely no cases of ovariotomy in this country. In the latter year, Dr. John L. Atlee, of Lancaster, Pa., and Dr. Alexander Dunlap, of Springfield, Ohio, began their work, joined by Dr. Washington L. Atlee, of Philadelphia, the following year, and revived the operation in America.

In England, Charles Clay did his first operation in 1842. Mr. Spencer Wells began to operate in 1858. The status of the operation in Great Britain at the time the Atlees and Dunlap began their work may be inferred from the fact that the first successful ovariotomy in a London hospital occurred in 1846, Mr. Cesar Hawkins being the operator, three years after the revival of the operation by the Atlees and Dunlap. J. Taylor Bradford, of Kentucky, entered upon his series of thirty operations, with twenty-seven recoveries in 1853; and Gilman Kimball, of Lowell, Mass., joined his colleagues in the great work in 1855. Peaslee states that the operation did not secure a permanent footing in the United States until 1855, and then only in the country. The surgeons of the cities, as a rule, opposed it for some years afterward. Ten years later, 1865, the operation was generally accepted. Operative surgery received a great impetus in the discovery of anesthesia.

No one can read Dr. John L. Atlee's report of his first case, which was the first double ovariotomy ever performed, without recognizing the courage, skill, and sagacity of a master in surgery. He operated with rapidity; he carefully arrested all bleeding; he cleansed the peri-

toneum, and used silk ligatures. He transfixed the pedicle with a double silk ligature, and tied each half with half the ligature. He adopted McDowell's method, and brought the ligatures out through the lower extremity of the wound to secure drainage. Dr. Washington L. Atlee performed his first operation in March, 1844. It was unsuccessful. His next was done five years later, and was successful. He adopted the methods of his brother in operating. Dunlap treated the pedicle after McDowell's method. Dr. E. R. Peaslee began his series of ovariotomies in 1850, and Sims, Thomas, and Emmet, a few years afterward joined in the work. In October, 1871, Peaslee had collected 739 ovariotomies performed in this country, with successful results amounting to about sixty-eight per cent.

In 1858 Mr. Jonathan Hutchinson, of London, performed two ovariotomies, and devised the clamp for fixing the pedicle externally. This method was adopted and modified by W. L. Atlee, who led all American operators of his day in the number of his cases. The clamp came into general use, and had the confidence of ovariotomists generally until a recent period. For many years the method of securing the pedicle was considered the pivotal point in the operative technique, and the ingenuity of operators was expended on this feature of the operation. Under the leadership of Spencer Wells in England and Atlee in the United States, the clamp superseded other methods.

The causes of death after ovariotomy were enumerated at this same period (1873) by Peaslee, as follows, his deductions being based upon post-mortem examination of fifty cases. The causes are given in the order of frequency: Peritonitis, septicemia, shock, exhaustion, hemorrhage, strangulation of intestine, diarrhea, erysipelas, tetanus, and ulceration through the bladder. Based upon this view of the pathology, peritonitis was regarded as the greatest danger to which a patient was subjected after ovariotomy, and opium in heroic and repeated doses, in accordance with the accepted therapeutics of that day, was the conspicuous feature of the after-treatment. This treatment was universally accepted by the profession. The turning point in the history of ovariotomy in America dates from the correction of this error in pathology. When it became known that the greatest peril of a patient during and after ovariotomy is septicemia, and that the peritonitis hitherto attributed to traumatism was in reality due to septic infection, this department of surgery entered upon an advance which in grandeur and brilliancy has no parallel in the history of our art. This great fact was heralded in America by Marion Sims and met with universal acceptation. Sims instituted a method of drainage after ovariotomy by puncturing Douglas' cul-de-sac and passing a tube into

the vagina. This was soon abandoned, though it is now practised by Martin, of Berlin.

With the acceptance of the fact that the supreme danger after ovariotomy is in septic infection, a new era in ovariotomy began in America. Synchronous with the adoption of operative methods and after-treatment based upon this knowledge the clamp was abandoned, and the intra-peritoneal treatment of the pedicle was restored. The most important single contribution made to pelvic and abdominal surgery is the system of surgical cleanliness instituted by Lister. Burdened with the spray, pads, macintosh, and chemical solutions at first, it has been simplified and stripped of its dangers and its encumbrances, and found to consist, in its essence, of absolute cleanliness. With the application of this principle—the outgrowth in practical surgery of the researches of Pasteur, Lister, Koch, Watson-Cheyne, and others, upon the nature of fermentation, putrefaction, suppuration, and septic infection—results have been obtained of which our predecessors scarcely dreamed. From ovariotomy the work extended to other organs within the peritoneal envelope, until all have been included.

When Marion Sims, a few years ago, confidently predicted that the time was near at hand when gun-shot wounds of the abdomen would be treated by abdominal section and suture of the wounded viscera, it was considered by many as the dream of an erratic man of genius. Already a number of successful cases have been recorded in America. Ovariotomy has within a few years grown from an operation with desperate mortality to be the most successful major operation in surgery. From a last resort, attempted by a few bold spirits in the profession, it is now done habitually by surgeons in every State of the Union. Along with the extension of surgical treatment to the other organs invested by the peritoneum has come a greater perfection in operating, so that the work of the best operators has a completeness and finish approaching the ideal in surgical art.

Time will not permit even an enumeration of the additions contributed in America to modern ovariotomy and the valuable contributions to the surgery of the intestines and other abdominal organs, all of which is the outgrowth of the work inaugurated by McDowell.

In conclusion I will venture to direct attention to one important lesson to be deduced from the study of the history of ovariotomy in the country of its birth. We have seen from what has preceded that the operation grew to its grand proportions in the hands of a few. All who have labored in this field of surgery realize how difficult is diagnosis even with experience; how exacting the technique; how varied the work in apparently similar cases; and how fatal an error. Of all

departments of surgical practice none requires such rigid and prolonged apprenticeship for successful results. No surgeon can rely upon simple cases. What is most needed to maintain the high standard fixed for abdominal surgery by its founders and its eminent practitioners is men in every community especially trained and equipped for this special work.

SECOND PAPER.

DRAINAGE IN ABDOMINAL AND PELVIC SURGERY.

BY JOSEPH PRICE, M. D.,

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THE absolute necessity of drainage in abdominal surgery has led to a careful estimate of its value in all surgery. Wherever there is serous effusion or leakage of any kind in the line of incision or in the cavity caused by the removal of any neoplasm, the cicatrization of the wound is interfered with, if not by the nature of the fluid, by the mechanical pressure exerted by that fluid under tension. In the pelvis the presence of fluid as a pathological accumulation at the seat of removal, involves a nidus of remaining unhealthy tissue, where physiological or healthy digestion is impossible. Illustrative of this fact I have the following specimens: In the first there is a pyosalpinx with an appendicitis and cecal ulcer. The cecal ulcer necessitated the stitching of the bowel, while the appendix stump was inverted and closed peritoneally. The pus-tube was universally adherent, and in its enucleation débris of unhealthy tissue was necessarily left to a greater or less extent. The value of drainage is here apparent. In the second case the condition was analogous, save that there were present double pus-tubes with an ovarian abscess.

The third specimen is that of an extra-uterine pregnancy with rupture, recurring hemorrhages, and general peritonitis. The abdomen was full of blood. In a fourth specimen there is a small adherent cyst, with a pus-tube on the opposite side.

The group of cases were operated on in the last ten days, and all the patients were suffering from extreme exhaustion, from loss of blood, and the presence of pus. In all these cases the trouble is universally of long standing, where all imaginable complications existed. Foremost among these complications were the bowel adhesions. In one week I was compelled to stitch the intestine five times. In this connection the care required in dealing with diseased serous surfaces claims especial attention. Not only must the primary lesion of the intestine be intelligently dealt with, but the secondary disease incident

to its pathological adhesions, and the ragged remains incident to its separation must also receive extreme attention. In no way can they be rendered inoffensive, save by drainage. In speaking of remaining débris, it may be well to insist upon a distinction between a remainder that is absolutely unavoidable, and that which occurs through timidity, inexperience, or gross carelessness. Such remainders as these are nothing more than criminal. When I find them or hear of them, I know one of two or three things has caused them. When I hear of a patient's being operated upon by the same man two or three times, I estimate the operator's ability or conscience accordingly. All the antiseptics, whether in bottles or consciences, will not make careless surgery give good results, or free the patient from the dangers of repeated operations. In four cases which have lately come under my notice, three of the patients died of operations repeated not less than three times. Flesh and blood will stand about so much. If the tension is too great, the harp-string will strain and snap, be he saint or sinner that plays on it. Necessary remainders are those produced by adhesions in parts not removable, save at a risk greater than is involved by leaving them. Such remainders as these should be trimmed to the utmost. If they are on the bowel, and their presence threatens too much the welfare of the patient, intestinal anastomosis or bowel resection may be resorted to.

Mechanical treatment of all bleeding points need not here be discussed. After all major leakage has been controlled, the hot drenching of the abdominal or pelvic cavity must be resorted to, for the removal of débris, shreds, and clots. After this, even sponge or lint packing may be found necessary. The insertion of the drainage-tube down to the lowest involved locality must then be made. Care must be taken that the tube makes no injurious pressure upon either the diseased or healthy portion of the intestine. In either case it will be fatal to uninterrupted recovery, and is likely to produce fistula. The use of large drainage-tubes, either in abdominal or general surgery, is to be deprecated as unnecessarily impeding healing and encouraging suppuration. A small tube, with a caliber sufficient to insure its not being obstructed by escaping fluids, when somewhat viscid, is all that is called for.

The failure of the earlier operators to appreciate the cause of death in their more complex cases, was, at the bottom, really the cause of that critical period of ovariotomy, when the congestive chills of dread made surgeons tremble and hesitate at deciding for or against the operation. In the earlier post-mortems of patients operated upon, the pelvis was found full of serum and clots. Had the fear of this abdom-

inal sanctuary not been by tradition so dreadful, that it was thought rasher to open it to a drainage-tube than to close it to gallons of fluid and pounds of clot, the tale would have been different and cavilers sooner silenced.

Purulent cases, where a nidus of infection could not by any means be primarily removed, would have yielded to drainage, while they died of turpentine and poultices, that made the belly warm, to hasten the infection. The same is true of all inflammatory products arising from any source whatever. This is a point well illustrated by two cases of puerperal peritonitis I lately operated upon. They had puerperal fever of five weeks standing, with high temperature and general collapse, and were full of pus to the umbilicus. There were huge ovarian abscesses, with bowel adhesions. The tubes and ovaries were removed and the bowel carefully stitched. The abdomens were flooded with hot water twice, which did more to bring up the pulse than anything else. The result is typical—complete recovery without bad symptoms.

It must be insisted upon that the mortality of this work would be so great without drainage, that the cases would have to be left to their fate by the surgeons in simple self-defence. Operators who will not recognize this as proven beyond doubt, will still go on having mortalities that they cannot explain. Their cases, while not worse than others, will suffer by comparison, and their bad results be apologized for.

While operation in all these cases is to be insisted upon, we will constantly see others where typical surgery is impossible; the patients are too far gone to allow prolonged operation. In such cases the immediate cause of the dangerous condition, if pus, is to be eliminated by drenching and drainage, and after the patient has rallied, some days later, the operation may be completed. Too much surgery in extremely debilitated patients will kill just as surely as none at all, as I have long since insisted upon and practised with gratifying results.

THIRD PAPER.

THE TREATMENT OF CERTAIN FORMS OF GANGRENE OF THE INTESTINE.

BY CHARLES B. PENROSE, M.D., PH.D.,

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I PROPOSE to consider briefly here the treatment of the degenerated or gangrenous condition of the intestine which is frequently met with in cases of pelvic or abdominal suppuration. In these cases the intestinal coats are destroyed by direct extension of the inflammation. The condition is common in tubal or pelvic abscess and in the perityph-

litic abscess of appendicitis. In such cases we frequently find the abscess cavity walled in by adherent loops of intestine; the intestinal coats being in contact with the purulent accumulation and presenting on their surface one or more cheesy, degenerated spots, of a purple or black color, and from one-half to two inches in diameter. These spots often have in their centers perforations, generally of small caliber, but sufficiently large to permit the escape of pus by the bowel, and often of escape of feces into the abscess cavity. A similar gangrenous condition of the intestine, with or without perforation, is sometimes present in the pelvic inflammatory troubles of women, when the Fallopian tube effects adhesion by its fimbriated end to the sigmoid flexure or rectum, and may discharge its contents through this channel.

Another class of cases in which there is an analogous degenerated condition of intestine and to which the following remarks with regard to treatment also apply, is found in intestinal obstruction, when the pressure upon the intestinal walls from within produces ulceration beginning in the mucous membrane and often extending through all the coats. Such ulceration has not, in my experience, been accompanied by the same amount of inflammatory infiltration and thickening of the diseased areas as occurs when the destructive process is from without inward.

The condition of the patients in whom disease of this character occurs is generally such that they cannot withstand a prolonged or serious operation. Excision of the degenerated patches or resection of the intestine is in most cases out of the question. Evacuation of the abscess, removal of the exciting cause, and adjustment of the abdominal contents in positions most favorable for recovery, are the only steps to be considered. I will, therefore, leave all ideal surgical operations out of the discussion, and consider only those cases in which ideal surgery is impracticable. I will not discuss the best methods of removing the diseased portion of intestine, but the safest way in which it can be left in the abdomen. Such a discussion is of value, because every surgeon must realize the impossibility of performing an ideal operation in many cases of abdominal surgery. Certain rules, theoretical or deduced from experiments on the healthy intestine of the lower animals, are laid down to be followed in the various abdominal operations on man, often without sufficient consideration of the pathological changes and distortions which may be caused by the disease that demands the operation. The determination of the extent to which one can go toward the ideal operation, without sacrificing any of the patient's chances of life to the surgeon's wish for mechanical perfection, distinguishes the true surgeon from the

surgical mechanic. And to attain this end the surgeon must not only be familiar with the ideal operations possible in favorable cases, but also with the recuperative powers, and the best means to favor recuperation of diseased or injured structures in complicated cases, where ideal surgery is impossible. In the disease, for instance, which is under consideration, the operator recognizes the danger of immediate, or not very remote, fecal extravasation if the degenerative patches of intestine are not removed, or if the perforations or fistulous openings are not firmly closed, and yet he realizes that the patient may not withstand the ideal operations necessary for the accomplishment of this object. It is then that a knowledge of how much can be safely left untouched, and the best way of so leaving it, is most desirable.

When diseased intestine, such as we are considering, is left in the abdomen, our object should be :

1. To place it in a position which will tend most to favor its restoration to health.

2. To defer as long as possible the separation of the slough and the escape of feces—if such an event is inevitable ; or if a fistulous opening already exists, to defer the escape of feces from this opening until preservative adhesions have taken place.

3. To place the intestine in a position most favorable for the spontaneous closure of a fistula, and most accessible for a subsequent operation.

4. To protect the sound peritoneum from infection from the diseased areas.

One of the most important points in the fulfillment of these indications is the adjustment of the diseased portion of intestine in a straight line, with the gangrenous patch facing the belly wall and in the immediate neighborhood of the abdominal incision. The straight position favors the easy passage of feces past the gangrenous area, and it not only tends to prevent escape of feces, by reducing to a minimum the pressure from within, but it aids, more than anything else, the spontaneous closure of the fistula should one result. The easiest fistula to close is one situated on the side of a straight intestinal tube; the most difficult is one at the apex of a sharp flexure.

If the gangrenous spots face the abdominal wall, the force of gravity will aid not only in preventing or delaying fecal extravasation, but also in closing the fistulous opening. The value of gravity as an agent in the closure of a fistula is well illustrated by a case reported by Sir Henry Thompson, where an old urinary fistula, which opened into the rectum, was cured in a few weeks by making the patient pass his water while lying on his face. By placing the diseased portion of

intestine near the abdominal incision, we make it most accessible for drainage, we avoid the risk of a deep fistula, and we have it in a position easy for subsequent operation.

When fistulous openings exist in these gangrenous patches they are generally of small size—often so small that the escape of feces and gas takes place only under pressure. In cases originating in pelvic or abdominal suppuration, the destruction of tissues proceeds from the outer to the inner coats of the intestine, and it generally happens that though pus may escape readily from the abscess into the bowel, yet the intestinal contents find a much less free exit on account of a valve-like closure of the opening. Some of these fistulous openings are so small that, existing as they do in the center of a thickened diseased mass, they cease to be patulous when the intestine is freed from its adhesions, and are often not visible at the time of operation, their presence being only proved by the previous or subsequent history of the case. The firm closure of such fistulæ is impossible without excision of the whole gangrenous area and the coaptation of healthy tissues. None of the intestinal coats around the fistula will hold a suture of any degree of tension. The intestinal peritoneum cannot be dragged over the openings, because it is rendered immovable by inflammatory adhesions, and is so friable that all sutures cut through. However, though these fistulæ cannot be firmly closed, yet the escape of feces from them can be deferred for a considerable time. And this is especially true if the patient has been prepared for laparatomy by a thorough emptying of the intestinal tract. When the fistulous opening cannot be closed by sutures, it may be covered by a large omental graft, extending around the intestine and reaching to the mesenteric attachment. Such a procedure will delay often for several days the escape of feces, and may result in cure without even the formation of a fistula.

There is a group of cases in which the gangrenous intestine and the fecal fistula are situated in a position not accessible for operation. This occurs in cases of pelvic suppuration with the history of purulent discharge from the anus. The fistula exists in the rectum, or in the sigmoid, which is often as inaccessible for operation as the rectum, on account of adhesion and contraction of the mesocolon. Under such circumstances all operations for closing the fistula are generally out of the question.

It is, however, fortunately situated in a position most favorable for spontaneous cure, being on the side of a straight portion of intestine, more or less immovable, and especially accessible to drainage and irrigation from above and to intestinal drainage and disinfection through

the rectum. Indeed, in most cases, small rectal fistulæ—if properly treated—in no way interfere with the patient's chances of recovery, even though left unclosed.

To insure the spontaneous cure of fistulæ, it is important that there should be no obstruction in the distal portion of the intestine. All obstructing inflammatory tissue and bands of adhesion must be completely removed, and intestine adherent in sharp flexures must be straightened out. We thus obey a most important rule for the closure of all fistulæ by rendering the natural passage-way the easier one.

Of course, in all cases of gangrene of the intestine drainage is of the greatest importance, especially drainage by means of large straight tubes whenever we fear escape of feces. Care must be exercised in placing the drainage-tubes, that they do not exert any lateral or vertical pressure upon the diseased portion of intestine, as sloughing has occurred from this cause even in healthy structures.

Before concluding I will report briefly three cases of gangrene of the intestine, in which ideal surgical operations were impracticable, and which were cured by treatment such as I have been considering.

Case I. *Abdominal and pelvic abscess, gangrenous intestine, entero-vaginal fistula.*—C. G., twenty-one years old, had a history of syphilis of two years' duration. Abdominal section was performed for double hydrosalpinx, and at this operation the peritoneum and the intestines were found perfectly normal with the exception of some healthy pelvic adhesions. Eight days subsequently it was necessary to reopen the abdomen on account of symptoms of intestinal obstruction, and because it was discovered that a free discharge of feces was taking place through the vagina. At the second operation the peritoneum was in the following condition: There was an abscess in the right inguinal region containing several ounces of pus. In immediate contact with this accumulation was a loop of small intestine, eighteen inches long. The whole loop was thickened, stiff, and friable. On the convex surface were two black, necrotic patches, two inches in diameter. A second collection of pus was found behind the left broad ligament. The sigmoid was in contact with this accumulation, and was firmly adherent to the posterior wall of the vagina. When separated from the vagina the bowel presented on its surface a necrotic patch, one and one-half inches in diameter. The fistulous opening through which feces had escaped into the vagina existed in the center of this patch, as there were no other portions of the intestine adherent to the vagina. The opening, however, was not patulous, and was obscured by the thickened diseased tissues around it.

As the patient was in a state of collapse, with an almost imperceptible pulse of 160, no radical procedure like resection or excision could be performed. The gangrenous spots were, therefore, left untouched. The small intestine was placed transversely across the abdomen, immediately above the upper angle of the incision. The sigmoid was freed from all adhesions and straightened as much as possible. And the abdomen was drained by means of three tubes through which continued irrigation was conducted. The patient recovered perfectly without at any time having escape of feces by any but the natural pas-

sage. This is especially remarkable, because there was left unclosed a fistulous opening which had been large enough to permit the free escape of feces into the vagina before operation.

CASE II. *Abdominal abscess, gangrenous intestine.*—A. H. had been suffering for several years with pelvic pain, and recently with acute abdominal trouble with great pain, chills, hectic, uncontrollable nausea, diarrhea, and very free discharge of pus and blood by the rectum, and rapidly increasing emaciation. At the time of operation the abdomen was distended and tender, with marked fulnes and feeling of resistance, and dulness on percussion over the right side from the groin to above the umbilicus. Temperature, 103°, and pulse 130. Median laparatomy was performed and almost a quart of feculent pus was evacuated from an abscess cavity in the right side of the abdomen, which extended from the floor of the pelvis to two inches above the umbilicus, and inward to the median line. At the bottom of this cavity was found a pyosalpinx, which had been the cause of the trouble. Though a large mass of intestine walled in this collection of pus, yet there was but one gangrenous spot discovered. It was on a loop of ileum and was about two inches in diameter. No fistula was detected, though it is probable that a small valvular opening existed in this spot, as there had been a free purulent discharge from the bowel before operation. As the removal of the necrotic patch was impossible without resection, it was covered by a large omental graft. The intestine was placed in a straight line transversely across the abdomen, with the gangrenous portion at the upper angle of the incision; and two glass drainage-tubes were introduced, one to drain the healthy peritoneum and the other the site of the purulent accumulation.

Pulse after the operation was 160. On the fourth day feces escaped from the larger tube, viz., the one which drained the right inguinal region. The quantity increased daily until at the end of a week the total discharge of the bowel came through the abdominal incision. After this it gradually decreased, and six weeks after the operation the abdominal wound was firmly closed and all feces passed *per anum*. The woman is now in good health.

CASE III. *Gonorrheal pyosalpinx, with a fistulous opening into the rectum.* A. F. had been suffering with pelvic pain for three years. For several weeks before operation she had been unable to stand erect, and had frequent discharges of small quantities of pus from the anus. After each discharge the pain was temporarily relieved. Abdominal section was performed, and two pus tubes were removed. There was no abscess in the pelvis outside of the Fallopian tube. The right tube was adherent by its fimbriated end, low down on the anterior surface of the rectum. The discharge of pus had taken place at this point. Fecal odor was perceived after the removal of the tubes and irrigation of the pelvis. There was, however, no escape of feces until the glass drainage-tube was introduced, when a small quantity of dry feces was withdrawn from the tube by a syringe. The woman was unusually large and fat, and the fistula could not be brought into view, and was inaccessible for any attempt at closure. No such attempt was therefore made, reliance being placed altogether on the abdominal drainage-tube, and on drainage through a glass tube inserted in the anus. I felt especially confident in leaving the fistula patulous since the woman had been thoroughly purged for two days prior to the operation; and because it was in a position most favorable for spontaneous closure.

There was no discharge of feces from the abdominal drainage-tube until

twenty-four hours after the operation, when the nurse, without direction, administered a turpentine enema, the result of which was intense pain throughout the lower half of the abdomen and the free escape of turpentine and water from the abdominal tube. For four days after this there was a feculent discharge from the abdomen, and on the fifth day a large quantity of flatus escaped through the abdominal tube while the rectal tube was removed for cleansing. The bowels were moved by glycerin enemata on the ninth day, everything coming by the natural passage. The patient was discharged cured, four weeks after the operation.

I have reported these cases because they illustrate the pathological condition to which I wish to call attention, and because they show what can be done without resort to the most heroic surgical operations. In conclusion, I will repeat what seems to me to be the most important points in the treatment of such cases :

1. Free purgation of the patient before operation.
2. Complete removal of all obstructing causes below the gangrenous intestine.
3. The adjustment of the gangrenous intestine in a straight line.
4. Thorough drainage and irrigation of the peritoneum.

FOURTH PAPER.

SIX CASES OF LAPARATOMY.

BY JOHN H. PACKARD, M. D.,

Surgeon to the Pennsylvania Hospital.

THE clinical histories to which I shall ask the attention of the society this evening have seemed to me to present features of sufficient interest to warrant their being placed upon record. My own comments upon them will be very brief, but I shall be glad if the facts stated should elicit expressions of opinion on the part of others.

CASE I. was one in which the operation was exploratory. The patient, May O., *æt.* twenty-three, was admitted to the Pennsylvania Hospital October 16, 1889. Menstruation began at fourteen, and was always profuse and painful, often lasting ten days. She generally had leucorrhea between times, the discharge being sometimes thick and yellow. Married at eighteen, she had a difficult but not abnormal labor one year afterwards, getting up on the eleventh day and nursing the child until it was eighteen months old. Her menses came on about six weeks after her confinement, and have recurred regularly since.

Three years ago she began to feel pain in the right ovarian region, and detected a small swelling there. The pain and tenderness extended over most of the abdomen, but in less degree. There had been a steady growth in the tumor, which seemed to be about the size of a small orange. For about six months she had been failing in general health, losing over twenty pounds in weight. Her appetite was capricious, and her sleep much disturbed.

An explorato y laparatomy was decided upon, and performed October 21st. The abdomen being opened in the median line, the uterus and appendages were

found to be normal, except that the left ovary was studded with small cysts. The tumor was found to be connected with the abdominal wall only, like a hemisphere attached by its flat side. The median opening was closed, the peritoneum being sewed separately with fine catgut. Next, the tumor was removed through an incision made parallel to Poupart's ligament. In dissecting it away, the peritoneum was again opened, and this wound was also sutured with fine catgut.

The patient reacted well from the ether; temperature in the evening, 100°. She complained of severe abdominal pain.

On the 22d the menstrual flow reappeared, and the pain passed away.

On the 30th, the ninth day, the dressings were changed, and both wounds were found perfectly united. She could now extend the right thigh completely, which had been impossible to her before the operation.

November 10th, the twentieth day, she was dressed and going about the ward.

On the 14th, she complained of pain, such as she had formerly had. This was thought to be symptomatic of a menstrual flow, but passed off apparently spontaneously.

She had no further symptoms, and left the hospital on November the 18th.

CASE II.—This patient, Fanny G., *æt.* twenty-seven, married, was admitted into the women's surgical ward of the Pennsylvania Hospital, October 3, 1889, at the request of Dr. L. F. Flick. She has had four children, the last one born two years ago. Her statement was, that four months previously she began to have bearing-down pains, especially when her bowels were moved; and there was a constant sense of something in the rectum which she desired to expel, and could not. On examination there was felt, just posterior to the os uteri, a very large, tense, uniform, fluctuating swelling. The woman looked very ill; her temperature, however, was only 101°.

I punctured the swelling in the median line, through the posterior wall of the vagina, and evacuated a small amount of blood, partly coagulated; a tube of soft rubber was introduced, but there was very little discharge through it, and it was retained with difficulty.

Five days afterward, there was a very free bloody flow from the vagina, supposed to be menstrual. She had severe pain in the hypogastric region, and frequent micturition, the urine containing pus. Evening temperature, 102°.

The next night there was a profuse hemorrhage, the origin of which was uncertain; it was checked by a tampon of iodoform-gauze and a T-bandage.

October 11th, the next day, a drainage-tube was again inserted into the cavity posterior to the uterus, and a tampon was kept in the vagina.

On the 12th the discharge became very offensive, and she had a good deal of abdominal pain, as well as nausea and vomiting. There was a considerable degree of fever, which lasted for days.

A solution of permanganate of potassium was used to wash out the supposed abscess-cavity, and by the 17th the discharge had ceased. I suspected that the case was one of extra-uterine pregnancy, and the same idea occurred to Dr. Goodell and to Dr. Joseph Price, both of whom examined the patient with me on occasions when they happened to be at the hospital.

On the 26th, another severe hemorrhage took place, and was checked as before.

On the 11th of November, the woman's condition being fairly good, she was etherized, and an abdominal section made. The mass behind the uterus was small, and there was a number of coils of intestine adherent to it; these were carefully

separated. The left ovary and tube were normal. The right ovary was enlarged, and embraced by the fimbriated extremity of the distended tube; both were removed. Closure of the abdomen was effected by suturing the peritoneum separately with fine catgut, the muscular layer and skin with silkworm gut, and a few superficial stitches.

The discharge through the glass drainage-tube was, at first, pure blood, then bloody serum, and, finally, serum alone; the tube was removed on the third day.

Nothing further of note occurred in this case, and the patient left the hospital in good condition on the 9th of December, just four weeks after the operation.

Upon examination of the removed ovary it was found to have appended to it a sac containing a mass composed of loose meshes, like the villi of the chorion; under the microscope corresponding appearances were presented, and the case is therefore shown to be one of ectopic gestation. The minute embryo was probably carried away when there was a hemorrhage from the sac into the substance of the broad ligament, and escaped in the mass of blood evacuated from the hematocele.

CASE III.—Sarah Jane R., *æt.* thirty-four, colored, was brought into the Pennsylvania Hospital, December 4, 1889, in the evening, with a mass of small intestine upon the surface of the abdomen. Upon inquiry, she stated that in June last she was operated upon by Dr. Penrose for an abdominal tumor, the complete removal of which was impossible. She had had ever since then a sinus discharging on the front of the belly, and several large fibroids were distinctly to be felt within the cavity. For several months her general health had been failing, with loss of flesh, severe cough, and purulent expectoration.

On the evening of her admission to the hospital, she had a violent fit of coughing, and the cicatrix gave way, allowing the protrusion of the intestines. The exposed peritoneal surfaces were deeply congested, and the coils of bowel were lightly glued together with plastic lymph; the peristaltic movements were very plainly seen. The patient's condition was not one of shock, although the temperature was below the normal. There was no constriction of the protruded mass.

Between the time of her admission and my arrival at the hospital, towels wrung out of hot sublimate solution were kept constantly applied to the exposed bowel. The patient was then etherized, and the orifice in the abdominal wall carefully enlarged. The cicatrix seemed to be extraordinarily soft, giving way almost like wet paper. The bowels were attached rather firmly to the uterine tumors, which were of large size and irregular shape. In the manipulations necessary to returning the intestines, some of these adhesions were separated, and copious hemorrhage ensued from the surface of the tumors. This bleeding came from various points, some low down in the pelvis; and it was so free, and all attempts at ligation of the vessels failed so completely, that it seemed as if the woman must die on the table. Finally, by packing with iodoform-gauze the flow was checked; the bowels were carefully replaced; the abdominal wound was closed with large pins, and figure-of-8 turns of braided silk, and the usual dressings were applied.

On the 5th, there were no signs of bleeding, or of peritonitis, and the woman said she was very comfortable. She drank peptonized milk with a relish, and the only unfavorable symptom was a subnormal temperature.

In the evening, she vomited a little, and delirium came on, sometimes mild, but occasionally violent. At midnight she grew worse, her temperature fell still lower,

and her pulse lost in force. Death occurred at 6 a m., about thirty-four hours from the time when the rupture of the cicatrix took place.

Perhaps I need hardly say that in this case the condition presented was a desperate one. But it seemed to me that, as interference was imperatively demanded, the proper course was to make it as effectual as possible, and hence that some examination of the cavity of the abdomen should be made before returning the protruded mass. The manipulations were conducted with extreme care and gentleness, and I think that if the opening had not been enlarged, the hemorrhage would have taken place just as certainly, but, of course, without the possibility of any measures being adopted to check it, unless a section had then been resorted to.

CASE IV.—Minnie B., *æt.* thirty, was admitted into the Pennsylvania Hospital, December 9, 1889, at the request of Dr. J. H. Bradford. She has two children, aged ten and four years respectively. Ever since the birth of first she has had pain. Menstruation is very frequent and profuse. A mass about the size of an orange exists between the uterus and the rectum. The uterine cavity is readily felt, as if the organ were somewhat anteflexed.

This woman's general condition was bad; she was pale and thin; there was a double mitral murmur, and a very forcible apex beat. Her appetite was poor and she slept badly. There was a slight albuminuria.

After two weeks of general treatment, an operation for the removal of the ovaries was decided upon, and was performed, December 26th. It presented no unusual features, but there were some adhesions of the intestines to the appendages, as if there had at some time been a local peritonitis. These adhesions were easily broken up, and both ovaries and tubes were removed.

The day following the operation a severe cough came on, with very copious expectoration, moist râles all over the chest, and urgent symptoms of heart failure. This condition of things continued, in spite of energetic treatment, for three days. She had a high temperature every evening, was delirious and unmanageable, tearing her dressings off; yet the wound did well, and on the third day the glass drainage-tube was removed and a rubber one was inserted.

On the fourth day, January 1st, she got up and walked about the ward, and had to be strapped in bed.

January 3d she had a temperature of only 99°, and her cough is very much lesse ed; wound almost wholly united.

On the 15th, nineteen days after the operation, she was up and dressed, and although still pale and weak, was gaining steadily. A small sinus still remained where the drainage-tube had passed.

On the 1st of February, when I turned the wards over to my colleague, Dr. Ashhurst, this patient was ready to be discharged.

CASE V.—Annie F., *æt.* twenty, was admitted into St. Joseph's Hospital, January 6, 1890, complaining of severe pain in the belly, most marked in the right iliac region, where there was great tenderness also. The whole abdomen was swollen, but at the part named there seemed to be more decided fulness and indistinct fluctuation. Her temperature was 104.2°; her pulse 130°; she lay on her back with her knees drawn up. The only history obtainable was that four days previously she had been seized with intense pain and vomiting, and that her bowels had been obstinately constipated from that time.

There were reasons for suspecting the existemce of salpingitis in this case.

On the 7th, the next day, the patient was etherized, and I performed an

abdominal section. There was peritonitis, but not in an advanced stage; all the coils of intestine in the right iliac region were deeply congested, swollen and coated with flakes of lymph. The appendix vermiformis was thickened, stiffened, and so brittle that it came away in my fingers as I was examining it; its mucous lining was softened, and had a worm-eaten appearance, like that of the colon in a case of ulcerative dysentery. It had contained several white concretions, which escaped and were lost. A catgut ligature was tied firmly about the stump, which was then left to itself.

Both ovaries, with their thickened and tortuous tubes, were removed. The right one was about the size of a hen's egg, and contained a large mass of dark clot, constituting the chief part of its bulk; the left one was fibro-cystic.

After flushing the abdominal cavity with hot water, the wound was closed in the usual way, a glass drainage-tube being used, and the peritoneum being sutured separately with fine catgut. For the first twenty-four hours the patient was troubled with hiccough, which was relieved by ʒj doses of tincture of musk. On the evening of the day of the operation the temperature was 102.2°; the next evening 99°.

On the fourth day the drainage-tube was removed, and a cotton rope substituted for it. On the tenth day there was some gaping in part of the line of the wound, and a good deal of discharge with a somewhat offensive odor, not distinctly fecal, but suggestive of it; but this had disappeared on the following day. Balsam of Peru was now employed as a dressing, and by the twentieth day the healing was complete.

It should have been mentioned that on the third day after the operation the bowels were very freely moved, and thereafter there was no difficulty in this respect.

The patient has now been for over two weeks up and dressed every day, and only remained in the hospital from choice.

I would say in regard to what seems to me the most important feature in this case—the manner in which the appendix was dealt with—that the condition of the intestinal walls in the vicinity was such that I did not think they would bear any unnecessary handling, nor did I believe that sutures could be put in without risk of tearing. The certain and immediate danger attending a prolongation of the operation, and the slight prospect of benefit from a more elaborate procedure as to the appendix, determined me to take the chances of the simpler course.

Case VI.—Mary J., *æt.* thirty-two, colored, single, was admitted to the Pennsylvania Hospital, January 18, 1890, on account of a uterine tumor, of which she had been conscious for about twelve months. She had previously noted that her menstrual flow had become much more copious and prolonged; her general health had failed, and she had lost flesh and strength.

On examination, the tumor, which could be distinctly felt through the abdominal wall, was found to occupy the posterior wall of the uterus, the cavity of which was three and a half inches in depth, and encroached upon by the mass.

Removal of the ovaries was decided upon, and performed on the 22d, five days after her admission. Both ovaries were cystic, and both tubes

enlarged and tortuous. The uterine tumor was, as before described, one portion of it softened and bulging. Owing to the involvement of the broad ligaments, the uterus was too firmly fixed to admit of a hysterectomy. After the ligature, in a Staffordshire knot, had been tied on the left side, the tissues gave way, and there was very free bleeding, which was only controlled with great difficulty by catching the tissues in a large clamp, and including the whole mass in strong gut ligature.

The abdominal wound was closed and dressed in the usual way. At first only blood came from the drainage-tube, but by next day there was clear serum. The patient complained very little, but seemed drowsy and apathetic; her pulse ran up to 130°, but her temperature did not exceed 100°.

On the evening of the second day, as there was some nausea, small quantities of milk and lime water were given by the mouth, and m.v. of tincture of digitalis hypodermatically.

On the 24th her temperature was 101°; there was not much pain, but frequent gulping up of bile-colored liquid. She lay quietly most of the time. A rubber tube was substituted for the glass one.

On the 25th the condition was about the same, but the temperature had risen to 102°. The dressings were removed, and it was found that a knuckle of intestine had protruded; it was deeply congested, and adherent to the dressings by a layer of lymph. It was returned, and two new sutures applied. There was a very offensive vaginal discharge, apparently of decomposed blood.

On the 26th the temperature was 103°, the pulse almost imperceptible, and the breathing rapid and shallow. At about noon there was stercoraceous vomiting, and death took place at 1.30 P. M.

After death the wound was opened, and a good many adhesions, probably of various dates, were found; there was no general peritonitis. In Douglas's pouch there was a mass of blood resembling that discharged from the vagina, but no opening into that canal could be detected.

DISCUSSION.

Dr. W. S. FORBES: It is refreshing to be reminded in such a clear and perspicuous manner as we have been to-night by our visitor from the west, Dr. McMurtry, that the great ribs of the vessel of sense holding our surgery of the peritoneum were announced in the beginning by our great countryman, McDowell—cleanliness, rapidity, drainage, and purgation. I doubt whether anything has since been added to materially strengthen this vessel. McDowell, in 1794, was a student of medicine in Edinburgh.

William Hewson, the friend and the pupil of John Hunter, had of late directed the attention of the medical mind to the anatomy and the physiological action of the lymphatic system of vessels, announcing the fact that the peritoneum was a great lymphatic space.

Hunter himself, while experimenting with cold applied to the comb of a cock, and telling the world the part was deprived of sensibility under such an application, directed his pupil, Physic, to carry

on certain experiments concerning animal ligatures as he might suggest to him.

When McDowell returned to this country, he applied the knowledge he had acquired, and the result we have heard to-night. We have been told that the operation of ovariotomy, which McDowell did so much to advance, slumbered for nearly forty years after his death. The orator of the evening has not ventured to lay before us the cause of this prolonged slumber. Very properly, he may have thought this not a part of the history of ovariotomy. Nevertheless it may be instructive to investigate and lay bare the cause of this apparent cessation of interest in an operation which now commands so much attention. Let us hope Dr. McMurtry will visit us again, and in another paper place before us his views on this part of the subject.

I confess to the belief that abdominal surgery was held in abeyance during a long series of years by certain dogmas promulgated from medical centers lying east of the Appalachian range, and at variance with the principle McDowell taught and practised. These dogmas were at length forced to give way by the superior power of certain geniuses that live around us—notably the Atlees.

This is not, by any means, the first time in the history of medicine that dogmas have enslaved the medical mind. We are told that Hippocrates stated that cataract was opacity of the cystaline lens. Some centuries later Galen announced that this was not true. It was not until sixteen centuries had elapsed that Lasnier, in 1656, revived the truth of Hippocrates. We are told that only within half a century of Harvey's demonstration of the circulation of the blood, that Dr. Geynes, a Fellow of the Royal College of Physicians, was cited by a sheriff's writ to appear at the bar of the College and beg pardon for daring to differ from the dogma of Galen, and either recant or go to prison. We are told that on bended knee he did recant and beg Galen's pardon before the assembled College. It would thus appear that Galen ruled the medical mind with greater sway than his master, Marcus Aurelius, ever ruled the Roman world.

I think it will be found that for forty years dogmatic teachings held in abeyance all advance in peritoneal surgery.

The other papers read, one by Dr. Price, and the other by Dr. Penrose, very happily illustrate the principles enunciated by McDowell.

Dr. Morris, of New York: I came here in a receptive mood, and am not prepared to discuss the questions brought forward. In regard to drainage, I think that Dr. Price is correct, although I did not think so a year ago. It then seemed to me that even when the

peritoneal cavity contained decomposing material, we should be able to dispose of it by means of drainage by way of the intestinal canal. I have since come to the conclusion that it is better to supplement this by artificial drainage in cases in which pus or other decomposing material exists in the peritoneal cavity. Otherwise I do not believe in drainage of the peritoneal cavity; never for the removal of serum, blood, or anything else but decomposing material. Experiments have shown that where the peritoneum is fairly normal, it is capable of removing large quantities of decomposing material.

Dr. Packard's error of diagnosis reminds me of an instance which occurred not long ago in my own practice. I had invited several friends to witness an operation on an interesting case of fibroid growth of the abdominal wall. At the operation I found that it was a gall-bladder filled with gall-stones. The clinical points which I obtained from this case I applied not long after in another case, and invited my friends to see another case of gall-bladder filled with gall-stones. I removed a large fibroid of the abdominal wall.

Dr. M. PRICE: Dr. McMurtry did not dwell upon the persecution side of the early history of ovariotomy. I can recall the time when to know Dr. Atlee was to know a scoundrel and a murderer in our profession. It was the same with others. These men suffered for years, but they are to be thanked through all time, beyond every other worker in the department of surgery, for their bravery.

I wish to refer to one case mentioned by Dr. Packard, that of a negro woman, where rupture of the cicatrix caused protrusion of the bowel. I call attention to this in connection with the open wound treatment of hernia. The McBurney treatment, which is now the rage in some circles, is simply absurd. It is nonsense to tell us that a scar is stronger than a well-healed wound. No one believes that scar tissue is stronger than natural tissues.

If I were asked what three things had done most to save life in abdominal surgery, I should reply, "Short ligature, drainage, and irrigation." I believe that more lives would be saved if a drainage-tube were used in every case. I think that I have never seen a case of septic and peritonitis except from omission of the drainage-tube. The tube must, however, be properly attended to; and until the surgeon can educate his nurse or himself to attend to a drainage-tube, *he should not open the peritoneum.*

Dr. GEORGE E. SHOEMAKER: If anything were needed to prove the value of drainage in abdominal surgery, we might take the cases reported to-night; they would prove its necessity in many cases, and its harmlessness in all. The risk from the drainage-tube itself is almost

nothing if its accessories be kept clean, and for this purpose I consider the use of chemical antiseptic solutions necessary, even though they are omitted at the operation. There are occasions when one wishes to defer the change of dressing for a few hours, or a day, after accidental soiling. If a quantity of powdered boracic acid be applied round the tube, the serum which soils the dressing will be kept from decomposing better than by any other substance. A sponge should never be used to cover the mouth of the tube, but always absorbent cotton. The risk of fistula is not increased by a clean small tube, removed under forty-eight hours; and the strength of the cicatrix is not lessened by the time the patient is ready to be up.

Dr. G. Betton Massey: So safe are the methods of ovariotomy that the question at last arises when it should not be performed. That question has not been discussed on its merits. From an abundant evidence, I think it may be said that normal ovariotomy for pain is a failure. It may also be said that normal ovariotomy for nervous diseases, or Battey's operation, is a failure, unless the case is one of mere hysteria, and even then it will fail at times.

In regard to the removal of normal ovaries for fibroid tumors: This is a theoretical procedure, and can only be adopted as a permanent part of medical practice after its results have been demonstrated. I have at present several cases of fibroid tumor, which have mainly developed and continued to grow after the menopause, and am cognizant of many cases where this operation has been a complete failure in the arrest of hemorrhage.

The general practitioner can never form correct opinions on these subjects as long as the habit of presenting "wet specimens" to societies prevails, instead of waiting to report results. A glaring instance of this perversion was shown at the last meeting of this Society, when a specimen was shown several hours from the patient, to exhibit the triumph of oöphorectomy over electricity. That same case has been reported to-night by Dr. Packard as dying four days later; yet a record has been already made that is manifestly unjust.

Another question occurs to the general practitioner, and that is as to the treatment of tubal disease; or, in other words, catarrhal disease of the upper genital tract. In the treatment of catarrhal disease elsewhere, he does not call in the surgeon. During the last few years, the habit of taking out the tubes and ovaries for catarrhal disease has been greatly on the increase. It is my personal knowledge that many cases of catarrh of the tubes are operated on without any attempt to cure the condition by other treatment. I consider it an essential in the practice of medicine, that all conservative methods should be adopted before non-conservative procedures are resorted to.

Dr. J. M. Baldy: It is gratifying to know that the essential features of the operation of ovariotomy are to-day the same as those laid down by McDowell, with the possible exception of drainage. McDowell turned the patient on her stomach at the close of the operation, but made no permanent provision for drainage, except that he brought the ends of the ligature out of the lower angle of the wound. He probably did this more with the view of removing the ligature subsequently, than of favoring drainage. In my own mind there is no doubt of the importance of drainage. Dr. Morris says that he does not believe in drainage except where there are decomposing fluids. I once removed a fibroid tumor, and for eleven days there were two or three pints of serum discharged from the tube daily. This was not infection. The woman would have died without the drainage-tube. In one case of extra-uterine pregnancy I put in a drainage-tube, but in a few days removed it on account of fear of sepsis from the surroundings. Within three days I had to put the patient on the table and open the posterior *cul-de-sac* of the vagina, and remove three or four ounces of fluid which had not made the least progress toward absorption, and which was increasing in quantity. Such cases could be multiplied.

I do not question the ability of the peritoneum to take care of effused fluids, but often after an operation where there are many adhesions, there is no peritoneum left in the pelvis. The reports of post-mortems of the older ovariotomies plainly demonstrate that in many cases death was due to lack of drainage. It was quite common to read that three or four ounces of bloody serum were found in the pelvis at the post-mortem examination, and no other cause could be assigned for the death. To-day we get rid of this serum by drainage before death.

There are several points of great importance in Dr. Penrose's paper. Those dealing with pelvic masses frequently meet with dense adhesions to the intestines, where, in separating the adhesions, the coats of the bowels are torn down to the mucous coat, and, at times, even through this inner coat. At times we have a pelvic mass discharging through a fistula into the rectum. I have refused to operate in such a case, where the opening of the fistula was only a short distance within the anus. Dr. Penrose's experience would encourage me in future to operate in such a case. His dictum of free purgation for two or three days before operation, seems to be the safeguard in these cases against feces passing into the pelvic cavity, until it is shut off from the general abdominal cavity by plastic lymph.

That feces can be discharged through drainage-tubes with perfect

impunity, is demonstrated by cases reported by Dr. Baer and others, where feces have passed for days, and the fistula subsequently closed spontaneously.

There is no question that many operations are done that should not be done, but I do not think that the criticism of Dr. Massey can hold good in the hands of men with well-recognized ability and experience.

In regard to the pelvic cases which are operated on without conservative treatment: If it is demonstrated that a given disease cannot be cured by a certain treatment, and that only the knife can effect a cure, there comes a time when it is folly to resort to these so-called conservative measures. It has been thoroughly demonstrated, in Philadelphia at least, that electrical treatment in pelvic inflammatory troubles is an absolute failure. There is not a single case that has been cured. The knife is the only thing that will cure some of these cases, and the only sensible thing is to use the knife at once, and not wait in each and every case.

Dr. B. F. Baer: Dr. Baldy has referred to a case of mine in which fistula followed ovariotomy. In this case, two days after the removal of double ovarian tumors, adherent to the colon, and necessitating considerable dissection, a drainage-tube was inserted, and the patient put to bed. Two days later the temperature was 102°, and there were tympanites. She was given a dose of Epsom salts, and the next morning the bowels moved, and the temperature became almost normal, but liquid fecal matter was flowing through the tube. I determined to try and find the fistula and close it, but, after working for an hour and a half, I failed to find it. I closed the abdomen with the expectation that the patient would die. She did pretty well for two days, when fecal matter again began to escape. I then treated it as an open wound, and the patient went home well twenty-eight days after the first operation. The lesson I learned from this case was to let fecal fistulas alone. I have had another case since, and I did not even irrigate. The patient went home in five weeks, perfectly well.

When I use a drainage-tube I always watch it carefully, and keep it emptied, and, in this connection, I may say that I think the little suction arrangement of Mr. Tait is a bad thing. I rarely have a drainage-tube in longer than forty-eight hours. The more experience I have, the less do I use a drainage-tube. In my last thirty-six cases I used the drainage-tube twice, and all these cases have recovered. I believe in drainage where it is necessary, but, in my experience, it is becoming less and less necessary. In general surgery, I think that drainage is used less than it was five years ago.

Dr. Massey: I am surprised to hear Dr. Baldy state that he does not know of a successful case of treatment of tubal disease, in view of several cases that have been reported to the Obstetrical Society. Electrical treatment has been followed by pregnancy in two or three instances in my practice.

Dr. John B. Roberts: In connection with one of the cases reported by Dr. Packard, I should like to put on record a rather curious case on which I operated a couple of weeks ago. I supposed that I probably had a carcinomatous disease of the transverse colon. I started to do an abdominal section, but, before I reached the peritoneum, cut into a cheesy mass, which was evidently tubercular, and which had not broken down. The cheesy matter was turned out, leaving a large cavity on each side of the middle line. Two drainage-tubes were put in, and the case is recovering rapidly. The tubercular collection was between the peritoneum and muscles, and felt, through the skin, like a hard, irregular mass, with a somewhat notched upper border.

Dr. Baldy: As illustrating the difficulty of diagnosis mentioned by Drs. Morris and Roberts, I can mention two cases. In one, where sarcomatous disease of the kidney was diagnosticated by two or three experts, the tumor turned out to be a fibroid or fibro-sarcoma of the abdominal wall. The second case was one of supposed cystic degeneration of a fibroid tumor. There were two lobes, one of which was supposed to have undergone suppuration. It opened spontaneously. The patient subsequently died, and the abscess was found to be in the abdominal wall. There was a hard nodule of tumor on the side of, and under suppurating cavity, which was adherent to the underlying tumor, and a large cystic mass on the other side.

Dr. McMurtry: It occurs to me to allude to one point in connection with the paper on drainage, and that is the antagonistic influence to drainage of the routine use of opium. I know that this point has been thoroughly discussed in Philadelphia, but those of us who practise elsewhere find, almost universally, when called to a case suitable for abdominal section, that the patient is under the influence of opium. This is a serious obstacle to the progress of the case. It masks the symptoms, dries up the secretions, prevents elimination, and does positive harm. If drainage is supplemented by purgation, it gives a more favorable aspect to the case, and promotes recovery.

My experience is the reverse to that of Dr. Baer. I find that the more abdominal work I do, the more frequently I use the drainage-tube.

Dr. Price: The statistics of the early operations in ovariotomy

were not bad. It is to be noted that the results of exploratory and of incomplete operations were the same as now. The cases of exploratory operation recovered, while the incomplete operations were all failures. Of the twenty-one cases reported from 1809 to 1830, seven died and fourteen recovered. An interesting fact is that McDowell's fourth and fifth cases were negresses; in the one a cystoma, in the other a dermoid. It has been denied that these occur in the negress. The case of Smith serves to fortify what I have so often called attention to, and that is the injury to co-existing cystoma during labor. This has often occurred in my experience.

I am glad that Dr. McMurtry has called attention to the use of the decoction of senna. That case made a happy recovery. I value the preparation of the patient by the use of laxatives. It is difficult to distend a bowel that has been thoroughly evacuated.

Schroeder, that great and just ovariotomist, entirely concedes the honor of ovariotomy to America. He says: "McDowell, of Kentucky, however, was the first man to perform ovariotomy in a rational and deliberate manner."

In regard to drainage: After the removal of healthy tumors drainage is not necessary; but where, as Dr. Baldy has stated, the peritoneum is stripped from the pelvic basin, drainage becomes essential, and in pus cases it cannot be dispensed with.

Nerve specialists and electricians talk about a class of cases with which we are not really dealing, except as they are placed in our hands by these specialists; they put into our hands a class of cases which we hesitate to touch.

In regard to the removal of appendages for fibroid and small myomas, it has been one of the most successful operations ever devised. In Mr. Tait's first series, completely reported, the mortality was only two per cent., and this is explained by accidental causes,—the existence of peritonitis and other vicious complications. In about eighty-five per cent. the menopause was completely established.

Dr. Penrose has, this evening, shot over the heads of the surgical profession. It will be a long time before the wisdom of this council is fully appreciated. Surgeons will have some sad and distressing experiences before they adopt the procedures suggested.

THE dangers of antipyrin are now being descanted upon by the daily papers, inspired thereto by the reckless home-dosing which has been carried on during the last few weeks. Antipyrin is not so dangerous as quinine, camphor, whiskey, cherry pectoral, chloral, or opiates—drugs that are freely used at all times by the laity.—*Times and Register.*

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Reported by W. H. BERGTOLD, M. D., *Secretary.*

REGULAR monthly meeting, held Tuesday evening, March 4th, at 8.30 o'clock, in the Library of the Polytechnic Institute, No. 9 West Mohawk street.

Drs. B. N. STRONG and E. N. Pfohl were proposed for membership.

Dr. A. A. JONES was invited to participate in the meetings of the Association until such time when he could perfect his membership.

Dr. HERMAN E. HAYD then read a paper on

ELECTRICITY IN GYNECOLOGICAL PRACTICE.

No matter in what department of medicine or surgery where faithful enquiry is made, there comes universally good reports from the application of electricity for the relief and cure of certain diseased conditions; yet there is no remedial agent which has ever been subjected to such unkind criticism, or to such varied and unscientific uses, as this powerful agent has. Taken from the hands of charlatans and street venders, ignorant and unscrupulous persons, it now has a recognized place in scientific medicine; and its therapeutical properties are acknowledged by the best men in the profession. Of the various forms of electricity that are used, I wish to invite attention to the practical application of the faradic and galvanic currents in the treatment of diseases of the uterus and its appendages. In a general way, I may say that I have found the faradic current especially useful in overcoming the more recent forms of subinvolution, accompanied by relaxed vaginæ, and more or less prolapsed uteri; as well as in relieving and positively curing constipation due to, or consequent upon, and accompanying all forms of uterine disease—in a word, in benefiting those conditions, where muscular tonicity and contractility are deficient. On the other hand the galvanic current, with its proper polar application, has given the most encouraging and even surprising results in the treatment of all kinds of chronic inflammations, congestions, and hypertrophies, existing either in the mucous membrane or substance of the body, or neck of the womb; malpositions and displacements; inflammatory adhesions about the uterus and its appendages; tubal and ovarian irritations, and organic diseases of them.

In the practical application of galvanism we have two poles: one the inactive, which is usually applied by means of a large pad externally, either near or upon the diseased territory; and the active or internal pole, which applies the electric force directly upon and into the

diseased tissues. These poles are called positive and negative, and differ widely not only in their chemical but therapeutical properties.

The positive generates oxygen and is acid in reaction, or better, liberates or generates acids from the tissues; while the negative gives off hydrogen, and is alkaline in reaction. Consequently, they differ not only in their topical action, but in what is called their polar action, or their physiological effect upon the tissues. The positive pole is styptic, caustic, hemostatic. It is also sedative, anti-congestive and depletive. It lessens the supply of blood to the part, by contracting the blood-vessels, and hence cuts off excessive nutrition, and increased vascularity; and, furthermore, brings on increased muscular contractility. Hence, it is indicated when there is a tendency to hemorrhage, when there is active discharge together with pain and tenderness, and where the tissues are swollen and soft, and in a condition of more or less subacute inflammation or congestion.

On the other hand the negative pole increases the circulation in the part, and in that way promotes absorption.

It is stimulating, absorptive, electrolytic, denutritive, and also caustic in its local effects; and consequently has its place for the more chronic inflammations, with their accompanying exudations and hypertrophies; yet experience will teach us that we can't be too arbitrary in the selection of our poles; nor must we always expect these definite results, as I have seen some recent cases of subinvolution, accompanied by profuse, irritating, more or less bloody, offensive discharges rapidly improve under negative galvanism. The explanation which I offer is that the mucous membrane was specially involved, and the caustic effect of the negative pole disorganizes and disintegrates the diseased tissues, and causes them to be rapidly exfoliated.

Let me now call your attention to the electrodes which I have been in the habit of using. I prefer for the external pad one of clay, in fact a modification of Apostoli's, made by Goelet, of New York. It possesses a great many advantages, is so easily applied, and can be kept warm; consequently, does away with the objectionable features associated with the use of cold, wet towels, over the wire gauze electrodes. In an excellent article by Goelet, in the *Medical News*, June 22, 1889, he describes at length the way these pads are made.

When positive galvanism is used, the electrode must be made of some incorrodible material; consequently, platinum is preferred. I have also used with satisfaction, a composition material suggested by Goelet. If any of the other baser metals be used, it will be found that

the tissues stick to the electrode; consequently, it will be with difficulty withdrawn, and will also be found that the tips are intensely corroded.

For negative galvanism any material may be used, and, as a rule, copper tips, nickle-plated, answers the purpose satisfactorily.

A milliampère meter is absolutely necessary for the proper and scientific administration of electricity; and by it alone can the requisite dosage be estimated and regulated.

A water rheostat is also a great convenience, since it prevents the sudden concussions and unpleasant sensations often produced when the current is intensified.

In giving a patient electricity, it is well to commence with a weak current, and gradually increase it. At first, the séances should be short, say two or three minutes; and in the course of a week or ten days, much longer sittings and currents of much higher intensities are well borne. If there be much tenderness present, or when even a weak current of twenty to thirty milliampères causes prolonged pain and distress or discomfort after an intra-uterine application, it is well to first give vaginal galvanism, applied to the os uteri and around it with a clay electrode—Goelet's, I prefer. When two or three—or in any very bad cases six—treatments of this character are administered, it will be found that the womb will tolerate the electrode internally, and very shortly permit currents of fifty to seventy milliampères, and even one hundred, to be employed with benefit and absolute freedom and safety. The treatments may be given from two to three times a week. It is well for the patient to recline on a couch in an ante-room after the application has been given, to overcome the slight shock, the neuralgic pains in the legs and back, nausea, and sometimes dizziness and faintness which are complained of. Moreover, it is well to insert into the vagina an antiseptic tampon of absorbent cotton after the treatment has been given. It is grateful to the patient by giving the parts support, and also has a tendency to check any hemorrhage which might occur, as well as takes up the watery discharge occasioned by intra-uterine application. The plug may be removed in the evening, or on the following morning.

For the relief of obstructive dysmenorrhea, I think there is no agent so universally applicable, and I take from my case book the following as an example:

Case I.—A. W., age 34, single.—For years have suffered terrible pains, when unwell, in fact, has often taken morphine for relief, and of late years fluid extract black hawthorn in large doses, often repeated. Is regular, but periods come every twenty-one days; and this has been her habit through life. Was operated upon seven years ago, and for a short time had relief, but apparently the

operation has done her no permanent good. Suffer for twenty-four hours acutely in her back, and hips, and groins, until a show is noticed, and then considerably, during the whole period, which usually lasts three or four days.

Diagnosis: extreme corporeal anteflexion with pointed pin-holed os, —enlargement of walls of uterus; sound passed in, acutely bent, about one and three-quarter inches; endometrium very sensitive.

Patient was treated twice a week, the clay electrode applied over the abdomen, and a flexible platinum-pointed electrode inserted as far as possible into the uterus. The galvanic positive pole was used internally at first, and forty ma. current was given. The sittings lasted from five to fifteen minutes, and the intensity ranged from forty to seventy-five ma. The patient took three treatments a week, until a good deal of vesical irritability was complained of, when the seances were given less frequently. The first period came on as usual, and positively no pain whatever was complained of. The treatments were continued for two months longer, and at the last sitting the sound entered two and one-quarter inches. The interval between the second and third menstrual period was six weeks. Now nine months have passed by since electricity was first administered, and seven menstruations have occurred, without the slightest discomfort to the patient. She gained in flesh six pounds, and her general physical condition is much improved.

The treatments were discontinued, as I have said, on account of the vesical irritability complained of, together with the fact that the patient was completely relieved of the condition for which she sought medical advice. For the relief of this condition authorities differ. Some prefer the positive pole, claiming that the resulting eschar is more permanent, and, consequently, the opening more patulous. I have preferred the negative, since, in its application, the tissues being relaxed, the electrode enters with less difficulty, and, if desirable, can be passed further into the uterine cavity, and correct, or, at all events, benefit the malposition.

CASE II.—*Chronic subinvolution with enlargement. Sound enters three and three-quarter inches; tissues hard, and firm; walls of uterus thick; anteversion, endocervicitis, erosion of os, especially posteriorly; pelvic adhesions, especially to left side. Relaxed vagina, with some prolapsus uteri.*

Patient *æt.* 24, married, one child four years old. Had two miscarriages after birth of baby. Has suffered from backache, bearing-down pains, bladder and bowel troubles, whites, profuse menstruation. When baby was three weeks old, was compelled to be on her feet a great deal, when she commenced to bleed, and continued to lose, often, considerable blood, for two months. She has been treated locally, as well as otherwise, ever since the baby was a year old, and has worn a pessary (large sized Hodge) with much comfort for the two years past. At times she has taken it out, but was compelled to have it reintroduced, to relieve the dragging pains and discomfort she suffered.

Negative galvanism was given, at first fifty and gradually increased to ninety milliampères. Was treated twice a week for eight weeks, and once a week for a month afterward. Séances eight to ten minutes. Also faradization was given through the vagina by means of a vaginal electrode, and the other, a large, flat clay electrode, was placed on the back. Patient at once improved; in fact every treatment inspired her with confidence, notwithstanding the fact that so many different operations had been made. Moreover, I treated her for months with iodine applications, chloride of zinc, and carbolic acid, and gave her internally pot. iod. and mercury; iron, and muriate of ammonia, in large doses, with but very little permanent benefit. Blisters were also frequently applied externally. Patient was discharged, cured, on August 15, 1889, when I made the following note: Sound enters two and three-quarter inches; womb freely movable; os healthy, and cervical canal free from any thick, glutinous discharge; womb in good position, and vaginal walls much firmer.

I have always supplemented the galvanic treatment in these cases of relaxed vaginæ, with the faradic current—the one electrode in the vagina, and the other over the small of the back—in the hope that it would tone up, not only the vaginal muscular structure, but the womb ligaments, and muscle fibre in them. Moreover, in an extreme case of procidentia uteri, due to great relaxation of the vagina, in fact the procedentia due to the vaginal prolapse, I found the faradic current very serviceable. The patient made the applications herself, night and morning. Previous to the use of the battery, a small-sized Waite and Bartlett, she always wore a good-sized rubber ball in the vagina, to hold the parts in place. She walked with great difficulty, in fact remained most of the time in her room. In four weeks she dispensed with her support, and found that a napkin between her legs made her sufficiently comfortable, to enable her to get about without any pain, and take such exercise and enjoyment as she had not participated in for years. She continues to take the electricity night aud morning, and says that the dragging pains are felt no more.

CASE III.—*Subinvolution, anteversion, laceration of left cervix, with some eversion of lips, circular erosion around os, endocervicitis and granular degeneration of mucous membrane of body, proved by curette. Sound entered four inches.*

Patient *æt.* 31, married when twenty-two. Menses appeared without much pain and not profuse in amount, at the age of fifteen. Had two children. Always well until after second confinement, when she complained of backache, profuse discharges, and profuse menstruation. Had two miscarriages, one at three months, and the other at seven weeks. Was called to see the patient on May 1, 1889, and found her bleeding profusely. Had been previously quite regular, and this period came on naturally. I prescribed ergot and ice applications over the lower abdominal region.

The bleeding continued so profusely that I deemed it advisable to plug the vagina at my next visit. On the following morning some blood had oozed through the plugs, and the patient was compelled to wear a napkin. These plugs, covered, as they were, with iodoform powder, were left *in situ* three days, when they were carefully removed. The hemorrhage at once returned, and I again plugged the vagina. On the third day these tampons were removed, and the bleeding had apparently ceased, so I did not re-insert the plugs. I was summoned again, post haste, in a few hours, and found her bleeding profusely; large clots of blood filled the vagina, and were seen upon the napkins. In company with Dr. Waite, we gave her a treatment of positive galvanism, seventy-five ma., for ten minutes, which had the effect of completely stopping all hemorrhage. The ergot was discontinued, and no tampons inserted. On the following day the electrode was introduced with some difficulty, and a second treatment given. Three days later another application was made, and then regularly, at intervals. The diagnosis, given above, was made after the hemorrhages had all ceased, and the womb was tolerably firmly contracted.

I continued this treatment for four weeks, using continuously the positive pole, and at the next period, which was also profuse, I made an application to lessen the flow. In the middle of the month I commenced to use the negative pole, giving seventy-five milliampères of current, and, as I feared, the hemorrhage returned slightly. I then alternated positive and negative galvanic applications until the following period, which was decidedly less in amount, and required no treatment; yet the loss was considerable. I continued this course of treatment, and, with it, vaginal faradization, for two months longer, and found the patient at the next period nearly normal. Four months after treatment was first commenced, by measurement the sound passed in two and one-half inches, and the general condition of the patient was very good. The os was much smaller in size, inversion of the lips had taken place, and, other than a bluish, congested appearance, the cervix looked normal. I continued to give two treatments a month, for two months, and at each sitting used the negative pole, from seventy-five to ninety ma. The last three periods have been normal in amount, and have come on with little or no pain; and at no time has the patient taken to her bed. At the last consultation, in November, I made the following entry in my case book: Menses natural, three napkins a day; no pain; up and at work during the whole period, in fact, ran a sewing machine and made her boy a suit of clothes. The patient has continued under observation, but has required no treatment.

While treating patients with electricity, I have observed that the pains in the ovarian regions and under the ribs very speedily pass away, and particularly if the inactive or external electrode be applied over the painful side. Moreover, the appetite and the condition of the bowels improve. This observation led me to prescribe electricity for constipation, which condition has been relieved, often in the most gratifying way, by faradization as well as galvanism.

For inveterate constipation, I have advised the patient to purchase a small-sized faradic battery, and make the applications night and morning, for a period of at least ten to fifteen minutes. One electrode is placed over the abdomen, and the other over the anal orifice, and as much taken as can be borne. Again, I have advised the large electrode to be placed over the spine, and, with a small sponge electrode the course of the ascending, transverse and descending colon is followed, making deep pressure. Perhaps galvanism acts best. Still the faradic current has done such satisfactory work, and can be taken by the patient herself, that I don't hesitate to recommend it very highly.

You will observe, in these cases I have reported, that I used from fifty to ninety ma. of current; but I don't wish it to be understood that this intensity is always necessary. You will be surprised to see what twenty to thirty ma. of negative galvanism, for six minutes, twice a week, will do for uterine leucorrhea and recent irritative conditions of the canal, and endometrium, when there is little accompanying hyperplasia, and enlargement of the uterine walls. This is no doubt due to the stimulating and alterative character of these weak galvanic currents.

DISCUSSION.

Dr. M. D. Mann said that he was particularly pleased with the use and effect of electricity in the treatment of uterine fibroids; he has treated over thirty of these cases, and, amongst them, large growths, which often seem actually to melt away by the use of the electricity. Dr. Mann has used as many as 200 milliampères, but the patient, as a rule, cannot stand more than 150; he does not believe any one can take a current of 1,000 milliampères, as reported by some observers. He employs Apostoli's method, but used a different external electrode; clay was tried first, and discarded as dirty and cumbersome; the metallic dish-filled-with-water electrode of Martin was also tried, and found wanting.

He now used an electrode made according to Dr. Ford, of Utica; a plate of copper, to the under surface of which is held in place by chamois, applied over a layer of a punk material; this absorbs an enormous amount of water, and is consequently very efficient. A large, flat shot-bag is used to keep the electrode applied to the skin. Internally he at first used platinum, but, finding it so difficult to procure, he used a thick wire of alumnium, covered by a non-conductor to near its end. The negative is, in his practice, used internally, unless there be hemorrhage, when the positive pole is substituted. It may take a few or many sittings to cure a fibroid; they usually diminish ½ to ⅓,

but never disappear entirely. This use of electricity is not entirely without danger; in one case he treated a patient for a fibroid, and, after twenty sittings, it had nearly entirely disappeared. After the last application, the patient walked home, and shortly afterward had a chill, followed by a salpingitis which ruptured into the uterus, but which eventuated in recovery; in this case he cannot say exactly what caused the complication.

In another case he had a great slough follow the thrusting of a needle electrode into a fibroid; this case also recovered, but only after having the slough cavity well drained.

In the treatment of dysmenorrhea by electrolysis, he has been both pleased and disappointed; some of the cases benefitted were very gratifying indeed. In the endeavor to absorb by electricity the great pelvic inflammatory products so often met by the gynecologist, he was very greatly disappointed, and he could not get the results in these cases which are claimed in similar cases by others.

Dr. HERMAN MYNTER said that personally he had used electricity in these lines very little, and particularly latterly. He spoke of a case which he had had years ago, before the advent the milliampère metre and other similar instruments of electrical precision, when he had used a high current on a uterine fibroid, and when a severe purulent peritonitis followed.

Dr. CLARK asked whether Dr. Hayd had had any experience in the treatment of those cases of scanty menstruation, rather than those of amenorrhea.

Dr. INGRAHAM said that he had had good results in the treatment of fibroids by electricity, but not at all with its effects on pelvic inflammatory residues. In the treatment of a case of uterine hemorrhage, he had not checked the flow as he expected; why, he could not say.

Dr. S. Y. HOWELL asked whether any one had good results with electricity in cases of sterility from flexions. In such cases he had often cured the dysmenorrhea, but could not, as yet, state whether the sterility was overcome.

Dr. MANN, partly answering Dr. Howell, mentioned a case of acute retroflexion where a laparatomy was made by a Chicago surgeon, and the uterus attached to the abdominal wall. In this case the cervical and uterine canal was so small as not to admit the smallest probe, and, though repeatedly dilated, always returned to the contracted condition.

After a few applications of a twenty-five milliampère current to the canal, it remained patulous. Whether the patient will now become pregnant or not, he could not say.

Dr. HAYD had (replying to Dr. Clark) had very happy results in cases of dysmenorrhea as well as cases of amenorrhea. He usually uses the negative pole, but if there be much sensitiveness, this is changed for the positive; it is not well, in his judgment, to use seventy-five milliampères at first, but rather employ ten, and longer continued. In the cases of pelvic cellulitis with inflammatory deposits he did not see why these thickening should not disappear before the current, if properly applied, and he believed that they would.

Dr. ROSWELL PARK then read a paper on

SOME POINTS IN THE SURGERY OF THE ALIMENTARY CANAL.

My remarks to-night are intended to be rather a report of some personal work, with a running commentary thereon, than a formal presentation of anything bearing upon a subject so large that, to treat adequately thereof, would fill a large volume.

Apropos to what has been said to-night of electrolysis, I wish first to report the case of a young woman who had a gastrotomy successfully and skilfully performed last year by Dr. Clark, of Olean, for stricture of the œsophagus. At the time of his operation it was with difficulty that she swallowed fluids. When she came to me in mid-winter, she could not even swallow her saliva; there was dilatation of the œsophagus, above the stricture, with frequent regurgitation of saliva, which had accumulated. I could pass nothing through the stricture, not even fine urethral bougies. It was located about twelve inches from the upper incisors.

I turned out on my lathe some fine olivary tips, which I attached to a coil of wire, inside a rubber tube. With this for a negative pole, the positive being a sponge applied over the epigastrium, and with a current of about 20-25 milliampères, I began treating every other day. After the third treatment she could swallow fluids; after the seventh, she began taking solid food. I can now pass a bougie 5-16 in. in diameter, and she eats everything.

I report this case the more willingly, since it is a brilliant triumph for electrolysis, with which, in the urethra, I have had but little encouragement or success.

During the past eight years I have seen a number of cases of cancer of the stomach, with reference to operative intervention for its relief. Not until last summer did a case which seemed to me suitable present, and then, through the kindness of my friend, Dr. Mann.

I take from my personal records the following history of the case in question:

Mrs. M. J. B., *æt.* 33, married, and has four children. For past five years some indefinite gastric trouble has kept her in poor health. Family history, good. For the past four months she has been conscious of a tumor in the epigastrium, which has grown steadily, and given increasing pain. During the past three weeks she has vomited almost everything she has eaten, and is now much emaciated.

Seen with Dr. Mann.—A distinct and very movable tumor can be felt in the epigastrium, which can be moved upward to the sternum, and downwards to the navel.

Cancer of pylorus diagnosticated, and operation advised. At once put on peptonized milk and tonics.

Operation February 19, 1889.—Incision in median line; tumor presented at once, and found to involve pylorus, with quite a portion of the greater gastric curvature. A few mesentric glands involved. Gastro-colic omentum first tied off and separated; then the lesser curvature freed in same way. Next, the stomach divided in such a way as to include about four inches of its greater curvature, and one and a half inches of its lesser; then the duodenum divided. Next, the mucosa of the stomach stitched with interrupted catgut sutures; after this the serosa, and musculosa united with fine silk, down to a point where the duodenum could fit; then the remaining gastric, and the duodenal mucosa united with silk, and over these their serosa and musculosa. Between sixty and seventy silk sutures were used. External wound closed with silver wire. The greatest difficulty was in dealing with hemorrhage from branches of *arteria colica dextra*.

Patient bore operation well, and was put to bed in good condition.

Fed *per rectum* early on the second day, and thereafter.

Everything went favorably till the night of the second day, when she became restless, temperature rose, and she had "sinking" spells.

She grew worse, and died in one of these spells, sixty-three hours after operation.

Post mortem.—Stomach found full of blood, which evidently escaped from a vessel in the mucosa, near upper extremity of gastric wound. Not the slightest sign of peritonitis, nor of leakage.

Microscopically.—The tumor was a typical scirrhus, with areas of colloid degeneration.

The specimen which I exhibit shows you that just about one-third of the stomach was removed during the operation. You will see from it, as from the diagrams drawn upon the board, that success in the operative part of the work depends upon strictest attention to detail; that these surfaces and corners must be brought together with scrupulous care, and that, unless serous surfaces are approximated with scrupulous exactness, the union will not be water-tight.

This patient lived over two days, and it will be seen that not the slightest leakage occurred. Death was caused by hemorrhage from a minute vessel in the mucosa, a vessel so small that it would have eluded the observation of any one at the time.

(Diagrams were drawn upon the board to illustrate the technique of the operations upon the stomach, without a reproduction of which a description would be uninteresting.)

With reference to such operations, my calm judgment is that they are feasible and justifiable, but only in well-selected cases.

While not gainsaying its possible advantages in hopeless cases, I cannot deny that it is both a most severe ordeal for the patient, and a trying strain upon the operator.

For cases of cancerous or other stricture anywhere along the intestinal tube, which do not permit of such radical measures, there are yet other methods of affording palliation, if not a prospect of permanent relief. To rehearse all these would be to tax your patience beyond endurance. I prefer to call your attention rather to the new methods of short-circuiting the intestinal canal by means of apposed openings above and below the lesion, the perfection of which are included in what is known as Senn's operations with bone plates, or substitutes thereof. I show you here, for example, the bone plates, as made under Senn's direction; also Abbe's rings of catgut. But the demonstration of some specimens which I have here will better illustrate the advantages of this measure. The first is from a patient who was operated upon a year and a half ago, nearly, but whose case was never reported:

Mrs. B., 47 years of age, was admitted in my service at the Buffalo General Hospital early in February, 1888. She gave the following history: She was the mother of sixteen children, four of whom have died. There was a cancerous family history, though difficult to get at accurately. She was small of stature. She gave an account, on entrance, of some alleged rectal trouble. On examination, I found nothing wrong in the lower bowel, but felt a tumor the size of my clenched fist, in the left hypochondriac region, nearly down in the iliac fossa; the mass being hard, insensitive, movable, and somewhat nodulated. She never complained of nausea, and never vomited; about her only complaints were of constipation and malaise. She said she had noticed the tumor herself for only three or four months. In the past two months she had lost twenty pounds. During her stay in the hospital, this tumor gradually shifted its position, and assumed a position much higher, and nearer the middle line. A careful estimation of urea showed a daily elimination notably below the normal amount. My diagnosis was cancer of the omentum, or of the colon, and, as I watched her for two weeks before the operation, I had no reason to change my opinion as to its location, nor had those of my colleagues who saw her with me. My advice was in favor of exploration and excision, if this were found to be practicable.

February 25, 1888, the operation was undertaken, under chloroform, in my clinic, Prof. Mann kindly assisting me. The patient had been prepared for it in every possible way. The incision was made in the middle line. After opening the peritoneum, the transverse colon presented first, and was seen to be healthy. The tumor was at once searched for, easily found, and, to our surprise, found to involve the stomach, which appeared largely filled up with a firm, nodular growth. The entire pyloric half was too much involved in the growth to permit thought of pylorectomy, so I at once decided to perform the operation described by Dr. Senn at the Washington International Congress. Fortunately I was provided with the decalcified bone plates advised by him, and made under his direction. I made a buttonhole near

the cardiac end of the stomach, through which I slipped one plate; then I secured the nearest available loop of small intestine, without reference to determining its exact position, and did the same procedure there. I met with no difficulty in getting the plates into good position, with the vascular walls between them, and then tied them fast. After this the abdominal wound was closed. The patient rallied well from the shock, and, on the following morning, she was in good condition. That afternoon her temperature began to rise; during the evening it rose to nearly 106, and on the morning on the second day, she died.

Complete *post mortem* examination was not permitted by the friends. The external appearance of the wound was good; the abdomen was somewhat distended. On cutting the sutures, it was found that agglutination of wound edges was not perfect, and that the peritoneal edges of the wound gaped. The intestines were distended with gas, and the abdominal cavity was full of a turbid fluid, in which were suspended small shreds and masses of lymph. Fresh lymph was found in numerous places in the intestines, and that noted at the upper part of the abdominal cavity had a decidedly purulent appearance. The site of the operation, however, was in excellent condition. The bone plates, though somewhat softened, were in proper position, and closely approximated; the serous surface inclosed between them were adherent all round, so that no leakage could have taken place; and the artificial opening between the stomach and the small intestines was patulous. Along the greater curvature of the pyloric end of the stomach was found a tumor, irregular in outline, its total mass about the size of a medium-sized orange, and quite soft; no other tumors were detected. Microscopical examination showed this one to be a round-celled carcinoma. Evidently an error had been made in the primary diagnosis, so far as exact site of the tumor was concerned. But she presented none of the ordinary symptoms of dilatation of the stomach; in fact, her food seemed fairly well digested, and she had no nausea or vomiting, and these features, coupled with the fact that the tumor, when first felt by myself, was much nearer the left iliac fossa than the proper position of the pylorus, makes it not surprising that one was misled.

She evidently died of peritonitis; whether this was due to the fact that the laparatomy was made in a public amphitheatre, is not to be easily decided. So far as the success of the measure devised by Dr. Senn is concerned, it was perfectly satisfactory. The viscera were agglutinated so that the opening was water-tight, and, while the case was not a successful one, ample demonstration of the practicability of Senn's operation was furnished.

Reference to this specimen will show that the apposition of serous surfaces was perfect, and union between them rapid and satisfactory. It will be seen that the opening is patulous, although subsequent experience is teaching us all that these openings, as thus made at first, are too small. They will have to be made larger in the future, if they are to be of lasting benefit.

To better illustrate the wide range of applicability of this method, I show you here three specimens from as many dogs. The first is an entero-enterostomy, where small intestine is joined to small intestine. I made this largely to experiment with plates of non-absorbable material, in order to learn whether the operation could not, in an emergency, be done with material that could be quickly prepared. For this purpose

I used plates cut out of medium or large-sized rubber tubing. The needles and catgut sutures are placed as Senn places them. They were inserted into the gut without trouble, fastened, a few Lembert sutures placed around them for security, and when the dog was killed, a few days later, not a trace of them was found. Using such inert material for the plates, I made the sutures of animal tissue, *i. e.*, catgut.

In the second specimen you see an example of a gastro-enterostomy, with perfect results. This animal was not killed for several weeks, and then for another purpose. Then the same rubber plates were used.

In the third specimen I show what may be done in the way of completely removing a section of the alimentary canal, closing the ends by turning them and stitching them snugly, then placing them side by side, and making lateral openings, which shall be then thus utilized by means of plates or rings, so as to preserve the permeability of the intestinal canal. Inasmuch as the gut is now closed at point of section, some absorbable material must be used for the plate or ring. For this instance I imitated Abbe's rings by extemporizing one of the same material, only made with much less care, as one might have to do in an emergency, were he previously unprovided with them. The result is, as you see, again perfect, and this animal was killed some three weeks or so afterward, long enough to amply demonstrate the success of the method.

These preparations by no means illustrate all that can be done in this direction, but I know they will be at least suggestive.

I had thought to-night to detail some successful work in making enterostomy for acute obstruction of the bowels; also some cases of resection of the small intestine, and of the rectum; as well to make some remarks on the benefits of exploratory laparatomy in checking the progress of malignant disease; but the hour is late, and I would defer them to another time rather than tax your patience now.

DISCUSSION.

Dr. HERMAN MYNTER said that he had had a case in 1876, when he practically used the same method of intestinal short circuiting as Senn's, excepting the bone plates. The case was published, and practically was a case of carcinoma of the intestines where the gut was enormously dilated above, and contracted below, the new growth.

He could not exsect, so he made a button-hole in the intestines above and below the obstruction and sutured the openings together.

The patient's bowels afterward moved, the first time in many days, but he died of exhaustion shortly after the operation.

Dr. WM. C. PHELPS was present at the operation, related by Dr.

Park, for the relief of pyloric cancer by exsection, and could corroborate what he had said about the apparent freedom from hemorrhage after the gastric wall had been sutured.

He did not see any way to have avoided the hemorrhage, and thought that this might be a point to count against the method employed.

Dr. ROCHESTER drew attention to the difficulty often encountered in trying to localize an abdominal growth, and mentioned a case when before death there seemed to be but a small lump in the abdomen, while the post mortem revealed extensive invasion of the viscera by carcinoma.

Dr. PARK, in closing, drew attention to the difference in the size of the openings in Senn's plates and Abbe's rings. The openings in the plates certainly are small, and six months after operation the corresponding intestinal openings would probably have contracted very materially.

Dr. JONES reported a case of pyonephrosis, and presented the specimen from the same.

The following resolutions were unanimously adopted:

Resolved: That we receive with feelings of profound regret the sad intelligence of the death of Dr. Phineas H. Strong, one of the Association's oldest, most zealous, and most regular members.

Resolved: That we extend to the family our most heartfelt sympathy in this their hour of sore bereavement; and trust their grief may be lessened by the remembrance of his good work and many excellent traits.

Resolved: That copies of these resolutions be sent to the family, and to the BUFFALO MEDICAL AND SURGICAL JOURNAL.

Signed, J. B. SAMO,
J. B. COAKLEY,
HERMAN E. HAYD.

The next meeting (April 1st) was announced as the "annual meeting," when the election of officers would ensue, and the programme for the succeeding six months would be made up.

The annual meeting was held Tuesday evening, April 1st, in the Library of the Polytechnic Institute, No. 9 West Mohawk street, with the President, Dr. A. A. HUBBELL, in the chair.

Drs. B. N. Strong, J. W. Putnam, John Parmenter, and W. H. Heath were elected to membership.

The names of Drs. M. A. Crockett and A. L. Benedict were proposed for membership.

The following officers for the ensuing year were then elected:

President—Dr. A. A. Hubbell.
Vice-President—Dr. W. C. Phelps.
Secretary—Dr. W. H. Bergtold.
Treasurer—Dr. F. E. L. Brecht.
Librarian—Dr. W. H. Heath.

Selections.

EXCERPTS.

By JOHN A. MILLER, M. Sc., Ph. D.

Prof. of Medical Chemistry and Toxicology at the Medical Department of the Niagara University.

Bacterium Lactis Aerogeus: By Adolf Baginsky, (*Zeitsch. f. Physiol. Chem.*, xii., 434; xiii., 352. *Ber. Deut. Chem. Ges.*, xxiii., 27). According to the author this bacterium converts lactose (milk sugar) into acetic acid and acetone; the latter in small quantities. The former is further decomposed into carbon dioxide, hydrogen and methane. Neutral lactic acid salts are converted into butyric acid. This bacterium acts upon amylum only in the presence of oxygen, acetic acid being produced. The presence of sugar, as an intermediate product, could not be identified.

Anthrarobin and Chrysarobin: By Th. Weyl, (*Arch. f. d. ges. Physiol.*, xliii., 367. *Ber. Deut. Chem. Ges.*, xxiii., 29). According to the author anthrarobin administered to rabbits in doses of 0.8 grm. for each kilogram of body weight is without toxic effect. Anthrarobin is excreted principally through the kidneys and the greater portion of it is found unchanged in the urine. A small portion is converted into alizarine and found as such in the urine.

Chrysarobin administered to dogs in doses of 0.1 grm. per kilogram weight produced violent vomiting, diarrhea and albuminuria. This substance appears after administration, in the urine, for the greater part unchanged, together with some chrysophanic acid.

Studies on the Appearance of Rennet in the Human Stomach under Pathological Conditions. By E. G. Johnson, (*Zeitschr. für Klin. Med.*, xiv., 240; *Ber. Deut. Chem. Ges.*, xxiii., 29). The author found rennet in the secretion of the stomach of persons suffering from various diseases of that organ. Rennet was present during all periods of digestion. It was absent in one case of chlorosis, in several cases of fever, and entirely absent in cancer of the stomach. The author did not find it either in the urine of man or in the gastric secretion of dogs.

Absorption of Fat in the Intestine. By A. Geuenhage and Krohn, (*Bied. Centr.*, xviii., 617; *Jour. Chem. Soc.*, lviii., 183). The author showed some time ago that the epithelial cells of the intestine cut out of a frog, as well as those in the living organism, are capable of taking up drops of fat from the intestinal tube filled with fat or emulsion.

The experiments were made with frogs that had been starved for some time, so that the intestines should be free from food constituents. The substances employed were milk, olive oil, lanolin emulsion, and a solution (?) of the finest Chinese ink; this last being employed in order to ascertain whether the epithelium absorption was confined to fatty substances alone. The results of the experiments show that the assumption of a mechanical activity of the epithelium of the intestines in taking up of fat is inadmissable, inasmuch as only fat, and not even the finest grains of other substances, enter into the protoplasma of the border cells. It is also established that the intestinal epithelium of hibernating frogs forms a store-place for excess of fat, and will retain fatty substances enclosed in it with great tenacity.

Origin of Uric Acid in Mammals. By J. Horbaczewski, (*Monatsh.* 10, 624; *Jour. Chem. Soc.*, 58, 185). The author believing that uric acid might be built synthetically from acrylic acid and some nitrogenous compound, such as urea administered with sodium acrylate mixed with the food, to a strictly dieted subject. No increase of uric acid was detectable in the urine.

The author further found that if a slow stream of air is passed through mixtures of fresh spleenic juice and defibrinated blood kept at 37° to 40°, very considerable quantities of uric acid are formed. This result is not produced by the blood alone, and must be regarded as due to a function of the spleen, which, perhaps, under some circumstances brings about the degradation of the white corpuscle of the blood.

Examination of Capsula Suprarenalis. By F. Marinozuco, (*Atti. I. R. Acc. d. Lincei. Rudct.*, 1888, 835; *Ber. Deut. Chem. Ges.*, xxiii., 57). The aqueous extract of capsula suprarenalis is very poisonous in its action. The author has made some experiments for the purpose of ascertaining the nature of the toxic principle. His conclusions are that the toxic effect is produced by *neurin glycero-phosphate*.

A new eye and ear infirmary has been incorporated by Drs. Abbott, Grove and Hinkle, who have withdrawn from the Buffalo Eye and Ear Infirmary. Its location and the hours of service will be ascertained by a reference to our advertising pages.

Correspondence.

FOREIGN LETTER.

BERLIN, February 25, 1890.

Editors Buffalo Medical and Surgical Journal:

ONE of the greatest pleasures I have had since my stay in Berlin is the attendance on the regular weekly meetings of the Berlin Medical Society. Several papers are presented every evening, and one has an opportunity to hear such men as Leyden, Virchow, Frankel, Mendel, Martin, Olshausen, Litten, Senator, and many others quite as eminent. It is needless for me to state that to hear such men every member tries to be present, and usually by half-past seven, the hour for meeting, there are three to four hundred out of the seven hundred members present. Prof. Virchow is the president. The subject discussed for two meetings was Extra-uterine Pregnancy, and it seemed to me from reading recent literature, that much that was new and of the greatest interest, was brought forth by the paper and from the discussion. Prof. Olshausen read the paper. He reported cases of twin extra-uterine pregnancy, and also called attention to the fact that it is apt to occur a second time in the same patient. The diagnosis is easy at the first month. The menstruation most always ceases at first and often recurs. In the second stage there is no difficulty about diagnosis and can be made with certainty (?) Tubular extra-uterine pregnancy is by far the most common, as it occurs ten times as often as any other. Many cases of supposed abdominal pregnancy were undoubtedly tubular. What was formerly supposed to be abdominal pregnancy is now known to be tubular; the placenta being attached to the inner part of the tube, and the fetus grows into the cavity after rupture of the tube. Primary abdominal pregnancy may, however, exist. The treatment of these conditions is the main consideration, and I pass on to this. If rupture of the tube has not taken place, there is no safer operation than laparatomy, and this should be resorted to as early as first or second month. If rupture has occurred, the state of the patient determines whether to operate or not. If a few days have already elapsed since rupture, and hematocele is formed, do not operate. In one case he had operated twice; at the first operation the placenta was not detached, but in eleven days the second operation was undertaken and the placenta was easily removed. Another case, diagnosis was made in fourth month, but the patient would not allow operation until two weeks before the full time. Laparatomy was per-

formed then, the child born alive, but died soon afterwards. Placenta was not removed. Patient did well until thirty-four days after this, when she suddenly became comatose, remained in coma fourteen days and died. In another case, childs position changed so that it was suspected that a rupture had taken place. It was found to be true upon operation. At firsr when cavity was opened, nothing could be seen but intestines, on searching the child was found buried in the intestines and was born alive. The sac could not be seen. The child and mother lived. In a few years mother returned with a second extra-uterine pregnancy, on the other side of the body. The sac should be removed if possible; if not, then the placenta, providing there is not too much bleeding. If there be danger from hemorrhage by removing the sac, it is better to leave it in the cavity. In general the operation is easy. It should be performed for the benefit of the life of the mother, the life of the child being secondary; the child rarely lives if born alive. In former years when the child was viable and operation performed, out of twenty-two cases nineteen died. The old idea of waiting ten weeks until after the death of the child was erroneous, and killing child by puncture or electricity was quite as false. In cases of rupture, if the bleeding continues, operate at once; if hematocele has formed, wait. If the child is viable, operate.

DISCUSSION.

Prof. MARTIN said: I will say a word concerning this most interesting condition, chiefly because the reader of the paper has in two places quoted me in a somewhat different way than I desire to go on record. He quoted me as saying some years ago that the diagnosis of extra-uterine pregnancy was quite difficult. Since that time, I have had opportunity to see many cases of extra-uterine pregnancy. I have operated twenty-two times, and have seen many cases that did not come to operation. I was of the opinion once that it was somewhat easier to make the diagnosis in such cases than I had at first maintained, but I am sorry to say that I turn more and more to the opinion first expressed, that this condition is not easy to diagnose, especially in the early months. In later months, when we can feel the child, is it easy to diagnose? Prof. Olshausen has said the menstruation is a guide to the diagnosis, although he said it was somewhat unreliable, but I am of the opinion there is not much reliance to be placed on this symptom. My first case was a woman who had never once missed the regular menstruation. In this case I performed laparatomy, and removed a child. At this time she had never spent a day in bed. The tumor was somewhat large and hindered her in working

at her trade, that of sewing with a machine; on this account she desired the tumor removed. He reported two more cases to illustrate this point; both of these cases came under his care after rupture of the tubes with severe hemorrhage. Both were operated on. Many times we can make the diagnosis by bimanual palpation, but we can mistake this condition for tubular and ovarian troubles, as in these diseases the menstruation is often irregular. I must say the diagnosis of extra-uterine pregnancy is not easy, and especially not in the early months of pregnancy.

With very especial pleasure I have listened to the therapy of extra-uterine pregnancy, as presented by the reader. You know that especially Winckel has returned to the theory expounded by Friedriech, that the fetus should be killed by injection, and then wait for its elimination in one way or another. I do not consider this good advice, but take the same stand as Professor Olshausen, that the sac should be removed, and, also, that the *whole* sac should be removed. In 1881, when I presented this view to the International Congress in London, I found considerable opposition. At that time it was thought impossible to remove the sac without great difficulty, especially in abdominal pregnancy, but we know now that abdominal pregnancy is a very uncommon thing, and that in tubular pregnancy we have the chance to remove the sac. I also then, and in 1884 in Copenhagen, pleaded that the placenta under all circumstances should be removed, and gave the advice to ligate. I admit that there are cases in which this is very difficult. I maintained then that the sac could not always be removed, but that instead of sewing it on to abdominal walls, to close the abdominal opening and drain through the vagina. I agree with the reader that operation as early as possible is the only way to deal with this condition and relieve the mother of months of suffering.

Discussion was further carried on by Privat-docent LANDAU, who had had nineteen cases with but two deaths. He agreed with the reader that the diagnosis was not difficult, but yet he had once made a mistake in diagnosis.

Dr. CZEMPIN took decided grounds against the reader, as he maintained it was not easy to diagnosticate this condition early. Many cases of mistaken diagnosis were reported by competent men. He considered that a very good point in diagnosis was the growing of the uterus along with extra-uterine pregnancy, as we know it does grow to about the size of a four months pregnant uterus, then could be felt the two tumors side by side. Professor VIRCHOW presented several specimens and called attention to the fact that in old cases the child itself never calcifies, but that the sac is filled with lime salts and

gradually hardens and builds a wall about the child. My oldest case of twenty-six years standing proved these assertions. It was possible after this time to recognize the form of the child and also under the miscroscope to distinguish the histological character of the same.

The nervous clinics continue to be quite as interesting, and rare cases are presented nearly every day along with typical cases of nervous disorders frequently seen. A case of Basedow's disease in man was recently presented. It was caused by fright two years before. The neck became enlarged, heart irregular, and eyes protruded, sleepless at night, sweats constantly. Was improving under milk cure and rest at the bath resort, Cordova. Several cases of what Westphal termed abortive insanity were presented. Case I.—Patient fears she will injure herself or her friends. When she crosses a bridge can hardly resist the temptation to jump into the water; Case II.—Young man who cannot work because everything he touches or comes in contact with he must thoroughly clean; when once cleaned he repeats this over and over again. In passing a show window, if he takes one glance at it he must return to it. He dusts his room over and over again, etc.; Case III.—A cashier who had to count his money over and over again. Many persons in this condition utter obscene words against their will if they have chanced to hear them from some one else just previously. Perhaps they will struggle to suppress it for a day or so, but finally will repeat it. Heart disease was noticed in the cases. Westphal first described them, and said they rarely developed insanity, and were not fit subjects for an asylum as they rarely injure themselves or others, and usually run a long course and recover. The beginning is sudden and the termination just as sudden. Such cases should be treated by travel, cold water cure, sea baths and nerve tonics. Professor Mendel showed a child eleven years of age, with multiple sclerosis cerebri; head is in constant motion, pupils widely dilated, partial facial paralysis in the right side. On account of progressive paralysis she is unable to stand; mind affected; patellar reflexes exaggerated. He reported this case and showed that only within the last few years was this condition noted in children. The prognosis was unfavorable, as the time allotted for it to run its course to a fatal termination was three years. It was well to use electricity and iodides; using constant current to the head; exercising great care to use a weak current with the exact strength measured by a good galvanometer. A disease described by Charcot very recently, called "maladie de tics," proved very instructive from a therapeutic standpoint; an unfavorable prognosis was formerly given, but Mendel succeeded in relieving three cases almost immediately by the use of tinct. gelsemium in small doses:

CASE I.—Miss C., aged 23, jerks the head constantly, knits her brows, muscles of the face twitch, now and then the patient utters a loud noise, or speaks a word as if it were an echo, or does repeat the last word of any sentence heard.

CASE II.—Miss J., aged 14, has continual muscular tremor all over the body almost like chorea of worst form. Makes a half crying, half sighing noise. At times utters meaningless words or sounds. At night these movements cease.

CASE III.—Miss B., aged 12, almost similar case. Face, red; pulse, very rapid.

All these cases were of long standing. The exact character of these cases was not understood. Hypnotism, arsenic, cold water cure did these patients no good, as they had all been under treatment, but the use of tinct. gelsemium in three drop doses three times a day relieved the patient at once. There were two wonderful cases of hysteria recently. A man came to the policlinic on crutches; had not walked for a year; sight was imperfect; had unsound sleep, etc.; had lost in weight. Several off-hand diagnoses were made by the assistants, most leaning to the theory of alcoholic paralysis. Taking the crutches away, patient in five seconds commenced to tremble violently from head to foot and finally fell down. This proved to be hysteria. Professor Mendel said he proposed to treat this patient by suggestion without hypnotism. Patient was treated with large magnet placed across the legs for fifteen minutes; was not allowed to talk or move during this time, and at the end of treatment could walk a step or two. Has since continued to improve. Second case—a woman presenting the following symptoms: Had not eaten for eight days; the eyes were wide open and conjunctiva red; claimed she could see nothing; had not shut her eyes for eight days or so; as far as known had not moved the eyeballs. If this condition had depended on an organic lesion it would have been so extensive that the patient could not have walked. She might have had hemianopsia (or half vision), but to have complete loss of vision, with paralysis of six and eight nerves, was impossible without graver symptoms, paralysis of extremities, etc. This case was also treated with same method, suggestion without hypnotism. A magnet was placed on side of head, held firmly against the temporal region. Soon the patient felt the current, she said, then she saw a dim light, then could see, then closed the eyes, then could move the eyeballs. She left the clinic fully healed and returned the next day to show that she was still well. Professor Mendel applies hypnotism to the treatment of nervous conditions, but thinks it is much like the use of morphine; of some value in many cases, but to be used with great caution. He described many cases of hypnotism mania cases following the constant application, in which this only would help. In my next letter I will describe some of the spinal diseases presented by Dr. Oppenheim and Professor Mendel, and give a differential diagnosis of the same; and also, some points in alcoholic neuritis, which is exceedingly common here.

FLOYD S. CREGO.

BUFFALO MEDICAL AND SURGICAL JOURNAL

A MONTHLY REVIEW OF MEDICINE AND SURGERY.

EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

NIAGARA UNIVERSITY.

MEDICAL DEPARTMENT.—ANNUAL COMMENCEMENT.

AMONG the events of scientific and professional interest occurring in this city during the month just closed, we are gratified to note the exercises attending the close of the college year of this institution. Rarely, if ever before, has the profession here enjoyed such a treat. The character and ability of the men engaged in the discussions gave a tone to its public exercises and proceedings which demonstrates the influence of this school of medicine in the community, and the sagacity with which its interests are managed. We may also refer to the fact that when medical men near at home and from distant cities grace with their presence an occasion of this kind, they are giving a quasi-endorsement to the principles on which this school was founded, and also affording encouragement to the projectors of the movement in the interests of higher medical education, which will be felt by an advance all along the line in medical schools throughout the country.

The grade examinations and also the examinations for the degree continued two weeks, and in the wide range of subjects and severity of the tests required, exceeded any trial to which the students had been previously subjected. A high standard has been aimed at and fully maintained the present year.

The alumni meeting was held at the college, and the address of welcome was delivered by Prof. Herbert Mickle, after which the President, Dr. Geo. W. T. Lewis, gave the annual address. The following officers were duly elected: *President*, David L. Redmond, M. D.; *1st Vice-President*, John J. Twohey, M. D.; *2d Vice-President*, A. W. Bayliss, M. D.; *Secretary*, Edgar A. Forsyth, M. D.; *Permanent Secretary*, Frank H. Potter, M. D.; *Treasurer*, H. D. Ingraham, M. D.; *Executive Committee*, J. M. Hewitt, M. D., E. J. Murphy, M. D., Sydney A. Dunham, M. D.

In the afternoon the alumni met for the reading and discussion of papers of scientific and professional interest.

Dr. W. S. Tremaine gave some valuable remarks on The Use of Electricity in Myomata of the Uterus.

Dr. Joseph Hoffman, of Philadelphia, read a paper on The Treatment of Lesions at and about the Head of the Colon.

Prof. Burt G. Wilder, M. D., of Cornell University, gave a résumé of the present knowledge on The Sub-Frontal Gyre (Broca's convolution) in Man and Apes.

It need not be here stated that these subjects were ably presented, and elicited a discussion from those present which fittingly supplemented the labors and opinions of the essayists.

Where all the papers were of such a high order of scientific value, it may be invidious to particularize, but we think it due to Prof. Wilder to state that, as his subject was out of the order of those usually presented at meetings of this kind, the familiarity of the speaker with the anatomy of the brain, and the clearness with which the matter was presented, demonstrated the wide range of knowledge of the essayist and his eminent ability in this special theme. A special interest, however, centered in the electrical discussion that followed Dr. Tremaine's paper. Much of the atmospheric fogginess that has enshrouded the therapeutic uses of electricity in Buffalo was cleared away, and all seemed to feel better after hearing the logical setting forth of its status by the debaters.

The exercises of the evening were held at the Star Theatre, and consisted of the conferring of the degree of Doctor of Medicine on the following young men, who had successfully passed the ordeal of examination by the Faculty, and subsequently by the Board of Medical Examiners. The names are arranged in the order of standing: James Henry Dowd, Batavia; Bentley Silas Bourne, Hamburg; Edward Michael Dooley, Meriden, Conn.; Linus James McAdams, Buffalo; Charles John Reynolds, East Otto; Albert J. Colton, West Webster; Matthew Joseph O'Connell, Trumansburg; James P. Touhey, Monterey; Edwin Andrew Millring, Buffalo; William Henry Norrish, Buffalo; James Joseph Mooney, Buffalo; Henry Lovell Gillette, Batavia; Nicholas Lawrence Mulvey, Fairmount; Christopher Morris Kelley, Jr., Ansonia, Conn.; William Rodney Griffis, Buffalo.

We regret to state that the Chancellor of the University, Rt. Rev. Stephen V. Ryan, D. D., was not present on account of ill-health, but his place was filled by Rev. P. V. Kavanagh, Vice-Chancellor.

Prof. Simeon Tucker Clark, M. D., delivered a poem of rare merit on Science and Faith. It is due to the speaker to state that he filled, on a short notice, the gap occasioned by the failure of Rev.

Henry A. Adams to be present, whose regrets were made, and reluctantly accepted by all present.

The address to the graduates was given by Dr. Lewis S. McMurtry, of Louisville, Ky. A synopsis of this admirable production would do injustice to its merits, and we must be content to state that in beauty of diction, and in conciseness and clearness of statement, Dr. McMurtry demonstrated that his pen was controlled by a master hand, and inspired also by superior mental gifts. We trust this address will be printed in full.

The banquet in the evening at the Genesee concluded the exercises, and gave the opportunity for those who enjoy a "feast of reason and a flow of soul," to satisfy themselves to the fullest extent. Dr. F. H. Potter performed the duties of toast-master with all necessary grace and propriety. The regular toasts and the gentlemen responding to them, were as follows: "The State of Kentucky," Dr. Lewis S. McMurtry, of Louisville; "The Quaker City," Dr. Joseph Hoffman, of Philadelphia; "The City of Buffalo," Philip A. Laing; "The Press," F. J. Shepard of the *Courier*; "Our Manufacturing Interests," J. B. Olmsted; "The Bicycle in Medicine," Dr. C. S. Butler; "The Law," Seward A. Simons; "The Graduating Class," Dr. J. J. Mooney.

NEW LUNACY LEGISLATION.

CHAPTER 283, of the Laws of 1889, contains a section of interest to the general practitioner, to which we desire to call attention. It is the Act establishing a Commission in Lunacy for this State, and Section 7 reads as follows:

Section 7. "The said Commission shall keep in its office records, showing the names and residences of all Judges in this State, who are empowered by law to approve medical certificates of insanity, or to make an order of commitment of an insane person to custody; and also a record showing the name, residence and certificate of each medical examiner in lunacy qualified in accordance with the laws of this State; and it is hereby made the duty of each medical examiner in lunacy, at the time of the passage of this Act, to forward to the State Commission in Lunacy, a certified copy of his certificate of qualification."

"Hereafter, it shall be the duty of every physician who receives a certificate as a medical examiner in lunacy in this State, to forward a certified copy thereof to the office of the commission within three days after such certificate is granted, and said commission shall cause the same certificate to be recorded as soon as received, and shall promptly advise said physician of the recording thereof in writing. *One year after the date of the passage of this Act, it shall not be lawful for any medical examiner in lunacy to make a certificate of insanity for the purpose of committing any person to custody, unless his certificate has been so forwarded, and its record in the office of the commission, as above provided, has been acknowledged.*"

The latter clause of this section (italicized) is the one to which we

particularly refer. The year expires on the 14th day of May, 1890, and after this date certificates of lunacy cannot legally be made except by those who have met the requirements of the law, by having sent a copy of their certificates of qualification to the Commission in Lunacy and having received from them an acknowledgment that their names have been placed on file in that office as qualified examiners.

This is a very simple act, but the law makes it an important one, as upon its performance depends the legality of the commitment of a patient to an asylum.

Soon after the passage of the law, the Commission in Lunacy sent to the practitioners of the State copies of the act, that they might see what was demanded of them. Some physicians have already taken the necessary steps to make themselves legally qualified examiners, and we would urge upon all the necessity of this action.

Dr. E. H. Howard, Superintendent of the Monroe County Asylum, called attention to the subject in a paper read before the State Medical Society in February last, in which he pointed out the difficulties that would arise from neglect to comply with this provision of the law.

It is made the duty of Superintendents of Asylums to forward promptly to the Commission, copies of the medical certificates in every case committed to the institution under their charge. If the medical examiners neglect their duty of being registered at Albany, the patient cannot be legally committed nor detained.

This neglect will cause infinite trouble and give rise to many legal complications to the great annoyance of the physicians who act as examiners, as well as to the officers of the asylums and the friends of patients.

We bring this to the notice of members of the profession, as there may be some who are ignorant of the law, and others who have neglected to meet its requirements. Let every qualified physician at once send to the Commission in Lunacy, whose office is in the State Capitol, at Albany, N. Y., copies of their certificates of qualification. They will then be prepared at any time to make certificates for the commitment of their patients to custody.

It is the duty of the Judge approving the certificates to assure himself in each case that the medical man making the certificate is legally qualified and has met this new requirement of the law.

We would recommend that each physician file in the County Clerk's office, his certificate of qualification and obtain a statement to that effect, which can then be forwarded to Albany. The Clerk of Erie County has prepared the proper form for filing in his office and for transmission to the Commission in Lunacy.

It is gratifying to note that it is announced that Governor Hill has signed the bill lately passed, rechristening the insane asylums throughout the State. They are insane asylums no longer, but State Hospitals. The Buffalo State Hospital will be hereafter the official designation of the institution in this city presided over by Dr. J. B. Andrews.

Medical College Notes.

The Fourth Annual Commencement Exercises of the Western Pennsylvania Medical College were held in the Grand Opera House, Pittsburgh, on March 27th. The degree of M. D. was conferred on twenty-nine graduates, being about twenty-five per cent. of the class in attendance during the past term. In the evening of the same day, the Alumni Association of the College—now numbering 120—was entertained by the Faculty at a banquet provided at the Seventh Avenue Hotel.

The Missouri Medical College and the St. Louis Post-Graduate School of Medicine will, in future, be under the same management. It is also announced that henceforth a three-year graded course will be required for graduation. May many more of our medical colleges follow the example of the Missouri college.

Chicago Policlinic.—Dr. N. Senn and Dr. Chr. Fenger have been elected regular Professors of Surgery in this institution. In addition to clinical work, they will present a special course in abdominal surgery twice yearly.

Personal.

William C. Krauss, M. D., has removed to 382 Virginia street.

Book Reviews.

Spinal Concussion; Surgically Considered as a Cause of Spinal Injury, and Neurologically Restricted to a Certain Symptom Group, for which is Suggested the Designation Erichsen's Disease, as one of the Traumatic Neuroses. By S. V. Clevenger, M. D., Consulting Physician to the Reese and Alexian Hospitals, Chicago, etc. Philadelphia and London: F. A. Davis. 1889. Cloth, 8vo, pp. iv., 359. Price, $2.50, net.

The author of this monograph has intended to write for the two professions of medicine and law. In its perusal one cannot fail to be

impressed with the spirit of fairness which is everywhere apparent. It is as if a medical judge were reviewing the testimony of experts on a medical question, and after weighing carefully the opinions of each, he sums up and announces his own.

Few monographs have appeared, which so thoroughly reviewed the work of other men. Erichsen, Page and Oppenheim are liberally and judiciously quoted and their views fairly discussed. This is an important feature of the book, as Erichsen and Page present such widely differing opinions, that in harmony with the spirit of the book the reader must have enough presented to draw his own conclusions.

That so much of Oppenheim is included in this volume we feel adds greatly to its value, as no man of recent years has devoted more time and research to this subject than the learned Berlin neurologist.

That attorney and physician may appreciate the varied symptoms which become grouped in the disease under consideration; a large number of clinical reports by different observers in America, England and Germany are given. In this list we find genuine and simulated cases of spinal concussion. The results of litigation are also given.

Whether we accept the author's pathological view "that spastic conditions of the cord-vessels account best for spinal irritation symptoms," we must agree that he arrives logically at his conclusion.

The book is a valuable addition to the literature of the subject, is excellently printed on good paper, and yet we are compelled to express a regret that so carefully prepared a work on a scientific subject should contain such schematic plates of the spinal cord, as appear on pages 190-191. Such plates are always inaccurate and always represent things, not as they are, but as they are not, or as the artist wishes they were. Would that spinal demarcations were all in the straight lines the artist pictures; but since they are not, let us hope we may see them as they are seen in microscopic sections. J. W. P.

Syllabus of the Obstetrical Lectures in the Medical Department of the University of Pennsylvania. By RICHARD C. NORRIS, A. M., M.D., Demonstrator of Obstetrics. Philadelphia: W. B. Saunders. 913 Walnut street.

This syllabus is designed to overcome the difficulty of accurate note-taking, being especially adapted to the course of obstetrics, given by Professor Hirst, at the University of Pennsylvania. Like all works of this character, it is of use only to students who are cramming for examinations, and is of little value to the profession. This outline of lectures given by Prof. Hirst shows the wide range of subjects comprehended in the course of obstetrics given at that excellent institution.

We notice much that would not be adapted to other schools, however valuable they may be for the course to which they were given. This criticism would be applicable to the efforts of every lecturer. Circumstances, locality, etc., determine the extent and character of the lecture courses everywhere. On the whole, the work will fill its purpose.

The International Medical Annual and Practitioner's Index for 1890. Edited by P. W. WILLIAMS, M. D., Secretary of Staff, assisted by a corps of thirty-six collaborators—European and American—specialists in their several departments. 600 octavo pages. Illustrated. $2.75. E. B. Treat, publisher, 5 Cooper Union, New York.

The eighth yearly issue of this handy reference manual is at hand and is up to the standard of former editions. It gives in a brief but careful résumé of the important additions to medical literature during the past year, what cannot but be of great importance to the physician striving to be abreast of the times. Under miscellaneous are included two very important articles on Sanitary Science and Life Assurance, besides a list of the principal medical works published during the past year, chiefly American, and a list of the private asylums and homes for the insane, feeble-minded, inebriates, etc. The typographical work is neatly done.

A Manual of Organic Materia Medica, being a guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of students, druggists, pharmacists, and physicians. By JOHN M. MAISCH, Ph. M., Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Fourth edition, with 259 illustrations. Philadelphia: Lea Brothers & Co. 1890.

The scope of this manual embraces the drugs of animal and vegetable origin recognized by the pharmacopeias of the United States and Great Britain, supplemented by important non-officinal drugs, and by others recently introduced or revived, which seems to deserve attention. In view of the approaching revision of the United States Pharmacopeia, the drugs have been arranged according to origin, in which Benthani's and Hooker's Geneva Plantarum has been followed.

The drugs first discovered are of animal origin, then cellular vegetable drugs, and lastly, drugs without cellular stricture. Each drug is carefully described, giving its origin, habitat, description, constituents, properties, dose, and when necessary, its antidote. The illustrations serve to make the text more lucid and interesting, and conveys to the physician some idea of the agent he so often employs. An alphabetical classification, and the classification according to origin, are given at the end of the work. The illustrations are numerous and nicely executed, adding to the excellent typographical work done by this house.

BOOKS AND PAMPHLETS RECEIVED.

Leçons de Gynécologié Opératoire par Vulliet, Professeur à la Faculté de Médicine de Genéve, etc., et Lutaud, Professeur libre de Gynécologie à l'ecole practique, etc. Deuxiéme édition entirément refondue, avec 200 figures intercalées dans le texte. 8vo, paper, pp. 500. Paris: A. Maloine, 91. Boulevard Sant-Germain. 1890.

May's Diseases of Women. Being a Concise and Systematic Exposition of the Theory and Practice of Gynecology. For the use of Students and Practitioners. Second edition, revised by Leonard S. Rau, M. D., attending physician to Harlem Hospital, out-patient department, New York, etc., with thirty-one illustrations on wood. Small 8vo, pp. 373. Philadelphia: Lea Brothers & Co. 1890.

Transactions of the Eleventh Annual Meeting of the American Laryngological Association, for the year 1889. 8vo, cloth; pp. 150. New York: D. Appleton & Co. 1890.

Wood's Medical and Surgical Monographs, Vol. vi., No. 1. April, 1890. Contents: The Human Foot; its Form and Structure, Functions and Clothing. By Thomas S. Ellis, M. R. C. S. Modern Cremation; its History and Practice. By Sir H. Thompson, F. R. C. S. Aphasia, a contribution to the subject of the Dissolution of Speech from Cerebral Disease. New York: William Wood & Co. 1890.

Transactions of the Medical Society of the State of North Carolina. Thirty-sixth Annual Session. 1889. Wilmington, N. C. Jackson & Bell. 1890.

Health Notes for Students. By Burt G. Wilder, B. S., M. D., Professor of Physiology, Comparative Anatomy, and Zoölogy in Cornell University. Second edition revised and enlarged. New York and London: G. P. Putnam's Sons. 1890.

An Experimental Study of Intestinal Anastomosis. By John D. S. Davis, M. D., Birmingham, Ala. Reprint from the *Times and Register*, January 25, 1890.

Epicystic Surgical Fistula for the Relief of Vesical Catarrh. By John D. S. Davis, M. D., Birmingham, Ala. Reprint from *Journal American Medical Association*, February 8, 1890.

Cholecystotomy. Report of a Case with Illustrations. By Edwin Ricketts, M. D., Cincinnati, O. Reprint from the *Lancet-Clinic*, December 21, 1889.

Some Operations on the Gall Bladder. With a report of five cases. By Edwin Ricketts, Cincinnati, O. Reprint *Lancet-Clinic*, 1889.

A Rational Method of Obtaining Extension of the Spinal Cord and Column. By Charles F. Stillman, M. S., M. D., Chicago. With a discussion. Reprint from Transactions of the Chicago Medical Society.

The Identification of Criminals. Its Value as a Prevention of Crime, etc. By Charles E. Felton, Superintendent of the House of Correction, Chicago, Ill. Reprint. Read at the Congress of the National Prison Association, at Nashville, Tenn., November, 1889.

Sudden Emptying of the Bladder, as a Cause of Cystorrhagia. By Walter P. Manton, M. D, Detroit, Mich. Reprint from the *American Lancet*, 1890.

Modern Methods of Local Treatment in Skin Diseases by Several Authors. New York: Johnson & Johnson. 1890.

Hemoglobin Compound, or Bullock's Blood in Therapeutics. By F. E. Stewart, M. D., Ph. G. Detroit and New York: Parke Davis & Co. 1890.

The Early Detection of Pulmonary Consumption. By Wm. B. Canfield, A. M., M. D. Baltimore, Md. Reprint *Maryland Medical Journal.* 1890.

Report of the Section on Practice of Medicine. By Wm. B. Canfield, A. M., M. D. Baltimore, Md. Reprint Transactions Medical and Chirurgical Faculty of the State of Maryland. 1889.

Some Complications of Chronic Endarteritis. By Wm. B. Canfield, A. M., M.D., Baltimore, Md. Reprint from the *Medical Record*, October 8, 1887.

Mr. Bellamy and the New Nationalist Party. By Francis A. Walker, President of the Massachusetts Institute of Technology. Reprint from the *Atlantic Monthly* for February, 1890.

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Original Communications.

THE TREATMENT OF LESIONS AT AND ABOUT THE HEAD OF THE COLON.[1]

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Hypothetical pathology has rendered the current text-book literature on the subject of inflammations at the caput coli practically worthless. Whatever of literature there is worth reading and remembering, is scattered in the pamphlet and periodical publications of the last decade, and even yet it is not crystallized into forms that give it permanency and value to those outside the pale of the progressive teachings and the generally accepted views of to-day. There is always opposition to progress when it is in a line diametrically opposed to current ideas. In the present case, there is a border warfare between the old time medicine men, who yet hold to the view that there is a perityphlitis, a distinct lesion, outside and apart from the peritoneum, just as there is a periproctitis, without relation to it. To these, that there should be any other treatment for "perityphlitic abscess" than poultices, opium and rest, is the extreme of absurdity, while they who would resort to radical and prompt treatment surgically, are considered rashly aggressive. The subject under consideration has of late been so variously dealt with, that it is the aim of the present paper to endeavor to weed out some unessential refinements in all that relates to it, and to place it upon a basis common alike to all who may have to deal with it as a medical or surgical reality. First, then, as to the pathology of these lesions. The term perityphlitis is a misnomer; it does not obtain as an original lesion, but is a transference from a preëxisting inflammation, it being conclusively shown by post-mortem examination that

1. Read at the annual meeting of the Alumni Association, Medical Department, Niagara University, April 15, 1890.

in the great majority of cases the appendix is the primary seat of the inflammation. At the beginning of this paper, it was remarked that hypothetical pathology had rendered the current text-book literature on this subject practically worthless. At the bottom of this fact lies that egregious misconception that the appendix lay outside the peritoneal cavity, and even that the cecum itself was similarly situated. Where anatomy was so grossly at fault, pathology could not be correct, and the results of the error, far reaching for evil, have not yet obtained their limit. But while we are set right as to the original lesion in this group of affections, however complex they may ultimately become, there has been attempted a refinement in differentiating the successive steps and conditions that arise from this common cause, that to the minds of many it must appear that there is a benign and a malignant phase at once to be diagnosticated and distinguished. Herein arises the question of cecal inflammation. Does it exist apart from appendicitis? Although post-mortem proofs of such inflammations are rare, yet from the anatomical position of the cecum, the inference is certainly justifiable, that such lesions occur. It is rather a *post hoc* inference, however, than a logical deduction. It would seem impossible, nevertheless, for a pericecal inflammation to occur without the involvement of the pelvic peritoneum, since Treves has shown that there is no pericecal connective tissue, properly speaking, while he also holds the view that there is no meso-cecum. Inflammations of the cecum may occur directly from the irritation of foreign bodies. This in Fitz's investigations was found to be the only cause.

The appendix, then, a singularly useless organ, so far as we know, is the cause of most of these lesions. Anatomically considered, it is most inconstant, varying in length greatly. In the Pennsylvania Hospital Museum, there is a specimen nine inches long. When of such great length, it usually extends upwards in the abdominal cavity.

Impactions in its lumen are the cause of its inflammation, and the local or general peritonitis set up by transference or contiguity, are at the start the same, though varying in their degree, and in the definition of their boundaries, according to the extent of the original inflammation, and the location of the appendix which decides the direction in which the inflammatory products will burrow.

Given an inflammation, there is no assurance, either that it will remain quiescent, will remain pelvic, with a tendency to burrow outward, or that it may not generally infect the peritoneum. The burrowing may take place in a variety of directions. Musser has shown that it may discharge through the abdominal wall, the scrotum, into the hip-joint, through the loin into the peritoneum, and sometimes into the

pleural cavity, and even into the bladder. With this showing it seems almost superfluous to urge the abandoning of refinements in the diagnosis of pathological conditions, with a symptomatology pointing, in general terms, to the existence of vermiform disease. If we are to retain the terms, perityphlitis, typhlitis and paratyphlitis, let it be only to remember that they do not exist save as the consequence of an affection whose sequelæ they are.

The diagnosis of inflammations of the appendix, or of abscess around the head of the colon, cannot be considered easy under all circumstances. In a number of cases lately reported, the operation was done with no thought of existing appendicitis—the indications being simply general—the idea being to remove a pathological mass. The appendix is often diseased when there is little or no sign that such is the case, or when whatever symptoms there are, are attributed to something else. That such is the fact is proven by a large number of general autopsies. We must agree, then, that a simple catarrhal inflammation, or even a slight impaction in the organ, without peritoneal exudation or involvement, will generally escape exact diagnosis. If we have and hold in mind the possibilities of such disease, we may suspect its presence without, however, being able to prove it. I have already referred to the rarity of primary perforating disease of the colon. This has been proven, even in chronic dysentery and tuberculosis. That there may be a colitis from fecal impaction is not disputed, but when the trouble arises from such a cause, a tumor must be present from the very inception of the retention, there is an absence of a primary inflammation, there is a history of habitual constipation, while there is a notable absence of fever. These are the cases that end in resolution, and encourage those who do not discriminate carefully to believe that they have cured a perityphlitic abscess, and that after all the condition is not nearly so bad as it is represented. That fecal impaction may cause a perforating appendicitis, cannot be questioned, as the following history from a case under my observation well illustrates:

I was called in consultation to see a negro, aged 25. He had a history of great irregularity of the bowels; some general discomfort, which finally eventuated in the attack from which he was suffering when I saw him. He had a well defined tumor in the right inguinal region, and extending upward as a lumbar fulness. The mass was painful under pressure, and examination, per rectum, showed it to be boggy. The fever was, however, not marked, though there was evidently general prostration from some cause. He had been treated with quinine and anodynes, which, however, did not permanently remove the pain. I advised free purgation, and the following day went prepared to operate in case the symptoms were more urgent. I found him entirely relieved of his pain, sceptical as to my opinion as to

the serious nature of his illness, and scarcely willing to be touched at all. The tumor had disappeared, and he was left to the treatment of his physician, who also quietly enjoyed the rout of radical surgery.

Two months later I enquired of the same physician as to the condition of his patient. "Dead," was the answer. He went to Baltimore, had a recurrent attack, and this was the end. What form the attack assumed I regret my inability to learn. Here was a man in whom, in all probability, fecal impaction was the origin of an appendicitis perforans, that finally, under repeated attacks of constipation, resulted in general peritonitis. Another case of undoubtedly the same nature is a living illustration of this same pathology:

A young man, aged 22, came under my care with a primary attack of like nature. There was pain under pressure, no especial rise in temperature, and a fulness in the right cecal region. I purged him freely, applying turpentine stupes over the site of the swelling at the same time. The evacuation of the bowels was followed by a complete relief from all pain. There has been no recurrence of the disease, though three years have elapsed, a fact taken in connection with all other points in the history, justifies the diagnosis of colitis dependent upon stercoral impaction.

That there was in this case, or can be any involvement of the so-called pericecal tissue, I do not believe. For such a condition, primary perforation is necessary, or a breaking down of the walls of the cecum from the pressure of impacted fecal matter. Now, while these cases may go on toward resolution uninterruptedly, a certain proportion of them end in suppuration and abscess. Such cases can only be treated successfully by operation. The use of an exploring needle to determine the presence of pus, I do not believe can be justified under any circumstances. At best, the aspiration only makes plain what is logically present without its use, while if it reveals the presence of pus, it helps us not one jot in the treatment of the condition. Apart from this, if the puncture is negative, it may lull into a sense of false security, besides doing harm *per se*.

The initial history of a perforating appendicitis is altogether different from that above described; its oncoming is sudden. The primary lesion, which may be considered to have been catarrhal, is impossible of diagnosis, has finally lead to an inflammatory thickening of the lining mucosa of the appendix, narrowing its calibre, and preventing the escape of any fecal matter, or foreign body accidentally contained. This is the initiation of a condition that results in perforation. The symptoms are fulminant in character,—intense pain, rendering the slightest movement impossible. Collapse often speedily occurs, followed speedily by death. These are, of course, extreme cases. If the patient is so fortunate as to survive the first shock of the disease, peri-

tonitis is soon a complication of affairs, and may be limited by adhesions or rapidly become general. In the latter event it is almost certain to be fatal. Here, as in the other class, operation is the only hope for the patient.

Again the attack may assume a sub-acute condition that is misleading in the extreme. The pain may in great part subside, the fever abate, and the patient seem on the road to early recovery. Abdominal percussion may give no clue to the deposit at the seat of the perforation. Hence palpation and percussion externally are not to be relied upon. Examination by the rectum will often reveal a fulness or even tenderness, otherwise not to be detected. This last feature is to be explained by the frequent location of the appendix under the cecum. This, of course, interferes with the use of the aspirating needle with the expectation that it will have any chance of helping us to a diagnosis. Apart from the more serious symptoms, that of vomiting is to be considered. It is worthy of especial comment, that in the lesion, by all odds the most serious, it is not so marked as in cases of cecal impaction or simple obstruction. As to the differential diagnosis of these affections with other abdominal diseases, it is to be impressed upon the mind of the practical physician and surgeon, that while a variety of conditions may suggest themselves as possible, *all or the most of such conditions are to be remedied by operative interference, not by medication.* This is true, almost without exception.

If we have a concealed hernia to deal with, the remedy is operation; so with intussusception, strangulation of the bowel, or obstruction. In all other affections, where pain is present without other symptoms, the history offers for the most part distinctive symptomatology, and this being absent where there are symptoms of pus, it is safer to confirm the diagnosis by exploratory incision than to hope for resolution. In women, added to the conditions noted above, we may have also the various surgical affections peculiar to the sex. Or, we may have disease of the appendix complicated with ovarian disease, either abscess or cyst. It is a common condition in which inflammatory adhesions are found to exist between the appendix and ovary. The same is true in the presence of extra-uterine pregnancy of the right side. But in the presence of the difficulty of such complications, we are again to escape the dilemma by resorting to early operation, following the now accepted truism, that early operation saves lives in all these affections, while delay loses them.

The logic of early operation in appendicitis, is that even if the urgent symptoms subside for a time, they are prone to return, each succeeding attack being worse than its predecessor, and finally from

some unusual exertion or accident, a rupture occurs in the preëxisting adhesions, and a general peritonitis is started up and speedily ends fatally. Now, when this is true, delay at the best only averts a present operation for a future calamity, insuring death for the patient, and failure for the surgeon who is called on in the emergency.

It is not to be forgotten in the diagnosis of perforating appendicitis, that sex is an important factor. The proportion of men to women so attacked is as four to one. Statistics also show that age is always to be considered in making a diagnosis. Young or youthful individuals seem more prone to such inflammations than the old or middle aged. As an introduction to a consideration of the treatment of this or allied affections, I wish here to introduce an analysis of the more leading aspects of such cases, as determined statistically. For this purpose I shall use the tables of Fitz. Two-thirds of the cases tabulated by him were of unquestioned abscess. Only one-fourth of all cases may be expected to undergo resolution. Recurrency is so frequent that resolution would seem to indicate not a chance of cure, but only of temporary palliation of symptoms. Again in sixty out of 176 cases of perforating disease of the appendix, thirty-four per cent. died in the first five days, and in seventy-three cases of general abdominal pain, peritonitis occurred as early as the fifth day in fifty-four cases, or seventy-four per cent. Hence the time for operation must be set early, to escape the danger of the complication of peritonitis, or even the general exhaustion of the patient.

The question of operation in lesions of the kind we have been considering, strange as it may seem, is one still far from being settled. Physicians—purely such—are often prone to dispute its necessity, primarily, at all. They lay their trust in opium, and are content to let their science begin and their art end with the fabled splinting of the bowels. Surgeons without an abdominal experience, from a purely general standpoint, lay down principles and methods of procedure with which the abdominal surgeon cannot for a moment agree. Agreeing upon the necessity of operation, in a majority of cases, surgeons of undisputed ability disagree as to where the incision should be made, and as to the time of operation.

With such questions still unsettled, or in dispute, which is worse, (for there are sufficient data at hand to decide all such points for practical purposes and get results,) is it any wonder that the general practitioner is unsettled as to how he shall proceed? The time, it would seem, is ripe for some general conclusion, such as is held and subscribed to in most other serious conditions.

Though such a consummation is devoutly to be hoped for, it is not

to be reached by dogma, or one man's personal experience. It must rather be sought after the manner of the collective investigation of disease, by differentiating personal experiences, striking out the infinitesimals of prejudice, eliminating common differences, and retaining the valuable remainders.

From what, then, are we to hope the best results in the treatment of these conditions? What is the philosophy of the administration of opium; what does it accomplish; what does it prevent? Primarily, opium relieves pain. This effect *per se* is desirable, but coupled with its other action, in the presence of real lesion, that of masking symptoms which are danger signals and give us data for active interference, its use is negatived. In any condition where irritation is present, rather than inflammation, it is not needed, and its anodyne effect is equaled by gentle purgation, which need be none the less thorough, because mild. If there is present in the appendix an irritating body, and this it is to be remembered is oftenest the condition of affairs, opium can do no possible good, neither can any other medication which favors intestinal engorgement. Opium, moreover, paralyzes the intestines, favors the accumulation of gases, thereby increasing constantly the abdominal tension, and rendering the splinting of the bowels theoretical, not real. Before there are symptoms of pus, and it is to be remembered this is often an open question up to the time of operation, the pain is likely to subside with free purgation, while an after-treatment of rest and little more than occasional use of anodynes is by all odds safer than a previous routine medication with opium. Now, what is the logic of saline or calomel purgation? It is to be remembered here, that in the presence of actual impaction of the appendix, and consequent tendency to a primary local peritonitis, purgation is to be advised as a prelude to actual removal of the appendix, not as a curative agent. When the intestinal canal is clear of its contents, without previous paralyzing medication, it preserves its natural contractility, and resists any tendency to tympany, so generally present after the use of opium. Further, purgation, while it drains the intestinal canal, acts as a natural derivative, imitating actively the process which is hoped for by the alterative administration of calomel. Where there is pus in the pelvis beyond doubt, the lesson of abdominal surgery is, that previous purgation immediately antecedent to the operation is of positive advantage. Where there is general peritonitis, immediate operation with enucleation of the offending body with immediate after-drenching of the peritoneal cavity, cannot be too strongly urged. No operation that does not remove the appendix can be regarded as a safe procedure; for leaving *it* we leave all that

renders operation necessary. The exception to this is where a patient is found *in extremis*. The operation must then be done to save life; incision and drainage, with this end in view, are all that is justifiable. It is by all odds the best surgery, in the light of recurrence, and the fatality of general peritonitis, to operate early upon suspicious cases. It is to be regarded in abdominal surgery as proven, that pus anywhere within the abdominal cavity is more dangerous than operation to remove it. The argument to wait for adhesions before operation, is fallacious. While waiting for adhesions, we are just as liable to wait for a general peritonitis.

Early operation before adhesions are formed will enable us more easily to reach the diseased part, involve less handling of the intestines, shorten the operation, all of which are factors favoring the recovery of the patient. Having agreed upon operation, what as to the incision? Here we are directed on the one hand to make it over the appendix region. On the other hand we are directed where there are symptoms of general peritonitis that the incision should be median, or combined with the lateral, it being held that this affords the best facility for drainage. Let us look for a moment at this from the standpoint of gynecology. Given a pyosalpinx with all its complexity of adhesions, the bottom of the pelvis, omentum, intestine, and appendix itself, where does the operator make the incision? In the median line. So in extra-uterine pregnancy, than which, when ruptured, no disease can reveal more extensive adhesions. In pyosalpinx, too, abscess cavities, with necrosed débris and virulent pus are as a rule present, but the incision is median. Now, if in these conditions, drainage and enucleation are possible, why should it not be in disease of the appendix? The argument that the peritoneum is unnecessarily opened by the median incision, has no foundation in fact. If we break up adhesions, remove débris, and the appendix, we must open the peritoneum, and the opening in the middle line enables us far better to wash out inflammatory remnants. As an illustrative case I will quote the following, which practically answers all of the above objections showing that they are purely theoretical, and clinically illustrating many of the points referred to throughout this paper:

On first seeing the patient, Mrs. B., married, with three children, I found her with a pulse of 128, correspondingly high temperature, and unable to stir in bed without extreme pain. Careful questioning gave me the information only that eight days previous she had slipped from a chair, and caused thereby severe pain in the right iliac region. This had continued up to the time I was called, when she was compelled to take to her bed. The existence of her injury, according to her own statement, was limited to a little more than a week, though, in connection with this, she mentioned the occurrence, previous to her menstruation, of an ill-smelling

vaginal discharge. Examination, per vagina, discovered the presence of a growth alongside of the uterus, the touch of which gave her much pain. The rectum was empty, she having had a dysenteric attack the day previous. Touch outside was so painful that I did not attempt surface examination. The pain in her back and right leg was intense. I decided that operation was necessary, and called Dr. J. Price in consultation, to confirm my opinion. We agreed that operation was necessary, but, examining under ether, were somewhat uncertain as to the condition.

Operation being decided upon, an opening was made in the median line, and exploration made. The cecal portion of the intestine was found matted down, and I freed it after much difficulty. The appendix was almost completely buried in the pelvic tissue of the iliac fossa, and the temptation was big to tie it off piece by piece, though it was afterward enucleated by persistent effort, and contained a fecal mass as the source of the inflammation. The cecal portion of the bowel was almost gangrenous in spots, and nearly ulcerated through.

Surrounding this portion was a quantity of stinking pus, about two ounces. The pelvis was carefully washed out, no antiseptics being used, a drainage-tube introduced into the cul-de-sac, and a rubber tube led from the fossa, through the incision, which was closed with seven deep and superficial sutures.

Nothing was done with the bowel, save to cleanse it.

The bowels were at first opened by enema, and after a quantity of scybala was discharged, calomel, in doses of one-sixth of a grain, was given, to clear the tongue and to relieve bilious vomiting. The patient made an uninterrupted recovery, all the stitches being removed, as well as the tubes, by about the tenth day.

The patient, at the twenty-fourth day, sat up, entirely free from pain. A curious feature of the case is, that after removal of the offending appendix, the patient, after three days, remarked she had never been so free from pain for *two years*, then going on to give an exact history of her trouble, all of which pointed to appendicitis. Her pain had become so much a part of her, that she did not seem to recognize it as foreign.

The points principally to which attention may be called are the closing of the incision and the location of the same. Although central, drainage was perfect, and, though sutured, it promptly healed; showing, I think, that dogma, both as to location and allowing the incision to remain open. is not wise.

As, in this case, the central incision enabled me to remove at the same time an ovarian hematoma, otherwise out of reach; and as drainage was perfectly obtained, these points, for such operation, are worthy of special consideration.

So far as the treatment of the intestine is concerned, this case cannot be taken as an index. The treatment must depend on the nature and extent of the lesion. It may vary from the extreme simplicity of thoroughly cleansing, to resection, or intestinal anastomosis. With such possibilities, it is evident that none but a surgeon should attempt to deal with it. The appendix, when alone diseased, may either be

ligated and cut, and carefully cleansed, or, having been cut, inverted into the bowel, as suggested by Morton, and the peritoneal edges of the depression so produced, stitched together.

In three other cases lately come under my notice, the central incision was also used, for the reason that appendical disease was not positively made out, and the results in every way confirm the entire practicability of median laparatomy in the operation. Let me repeat and emphasize, that where general drenching of the peritoneum is desirable, and in the presence of pus it is always so, the median incision is no matter of experiment, both for thorough drainage and general exploration. The question of chemical antisepsis I shall not enter upon here, only to say, that in a long series of cases where pus and débris have been removed, both in my own work and that of my operating acquaintances of like opinion, there has been no need of any antiseptic whatever, and that the results have been uniformly good. The post operative treatment of these cases does not differ in any respect from that of other abdominal lesions. In general words, it can be summed up: the bowels should be kept easily open, diet should be light, and opium should be avoided, unless it is easily apparent that the restlessness of the patient will cause greater danger than that produced by the anodyne.

In summing up the treatment of the real surgical lesion of this region, which can only be considered plural when sequelæ are mistaken for primary affections, I conclude:

1. That it should in every instance be considered as a surgical, not a medical, lesion, and that medicines have no place in its treatment, save in the preparation for surgical interference. The cases that recover without recurrence are, in all probability, cases of stercoral impaction, antecedent to suppuration.

2. That the use of opium as a primary treatment is in any case, and at all times questionable, from a logical standpoint, and that any case that recovers under it, recovers not by reason of it, but in spite of it.

3. That the use of purgatives, preceded by a glycerine enema, is at once the simplest and most logical way of reducing congestion and fecal engorgement, and that cases in which it is feared that such treatment will excite either general or local peritonitis, by producing perforation, are already within the pale of operative surgery, and can in no way argue against the use of purgatives, or invalidate the logical claims for their administration.

4. That in view of the insidious nature of the disease, the frequent impossibility of exact diagnosis, and the early date at which cases

apparently simple, may become fatal in character, prompt operation affords the best assurance of recovery, especially in the light of the frequent recurrence, for which, in the language of Fitz, "the eventual treatment by laparatomy, in all events, is generally indispensable."

5. That the line of incision cannot be arbitrarily located, and that for general purposes the median will answer quite as well, and in special cases better, than the lateral; and that in women, owing to the infrequency of the affection, the median incision is generally advisable. In cases in which it is evident the inflammatory process is localized, with plain tendency to pointing in the groin, incision directly over the mass is preferable.

6. That the appendix, when operation is necessary, should always be removed (barring operation *in extremis*), and that while in exceptional cases the extra-peritoneal treatment may be possible as a result of very limited local inflammation and adhesions, this condition of affairs cannot be accepted as common, and should not be taken for granted.

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DEATH: ITS MODES, SIGNS AND PREMONITIONS.

By F. BRADNACK, M. D.

Death, as the Psalmist saith, is certain to all; all shall die.—Shakspere (K. Hen. IV.)

Cinis et manes et fabula fies.—Persius.

Death hath a thousand doors to let out life.—Massinger.

Accedit etiam mors, quæ quasi saxum Tantalo, semper impendet.—Cicero.

There are remedies for all things but death.—Carlyle.

All our days travel toward death, and the last one reaches it.—Montaigne.

By medicine life may be prolonged, yet death will seize the doctor too.—Cymbeline.

Chaque instant de la vie est un pas vers mort.—Corneille.

"Let us not fight against facts," said Euripides, "for we can do them no harm." Now, *death is a fact.*

Furthermore, as, sooner or later, it is a fact which every man must personally experience, it may truly be said to be of universal interest, for death (as the Arab proverb declares) "is a black camel that kneels once at every man's gate."

It is the purpose of this article briefly to consider certain phenomena appertaining to death in their psychological, as well as in their physical and physiological aspects.

"To smell to a turf of fresh earth is," says old Fuller, "wholesome for the body; no less are thoughts of mortality cordial to the soul." Doubtless this is so. Nevertheless, we meet many persons who cannot bear even to think of death, much less to speak of it. The false hypersensitiveness of these people reminds one of the very modest young woman who could not endure to have a man's "naked eye" spoken of. Nevertheless, both naked eyes and death exist; and, as facts are facts, unquestionably the wisest plan is, not only to recognize them, but to look them squarely in the face, for necessity is coal black, and Death keeps no calendar. He of the Scythe will come sooner or later, and then physicians and remedies will be alike vain; for, as says the Persian poet, "of what use is camphor to a person struck by lightning?"

Faraday had a theory (and Flourens, I believe, held a similar one) that the natural limit of man's life is not seventy, but 100 years. He assumed that the length of an animal's life is five times as long as the period required for him to arrive at maturity. For instance, the dog takes two years to arrive at maturity, therefore, his limit should be ten years. Man, being twenty years in growing, lives 5 x 20=100. There is more than theory in this hypothesis, and the large number of individuals who exceed the traditional three score years and ten are facts toward its verification. Faraday also divided man's life into equal halves, growth and decline; and these into four stages, infancy, youth, virility, and age. *Infancy*, he said, extends to the twentieth year; *youth* to the fiftieth (because it is during this period that the tissues become firm, epiphyses united, etc.), *virility* from fifty to seventy-five, during which the organism remains complete, and at seventy-five *old age* begins, to last a longer or shorter time, according to the amount, so to speak, of reserve force then on hand, and also to the manner in which it is expended. It appears to the present writer that this is not only philosophical, but that it is also more or less backed up by facts. That very many human beings have lived far beyond seventy years is a matter of history and statistics. Galen is said to have reached 140 years, and during his long life to have composed over seven hundred essays on medical subjects. One Lawrence, an Englishman, by temperance and diet lived 140 years, and a man named Kentigern is recorded to have lived 180 years. This man never tasted either wine or spirits; was in the habit of frequently sleeping on the ground, and laboring hard. Henry Jenkins,

of Yorkshire (a better authenticated case), was a poor fisherman, who ultimately became a beggar, lived uniformly on coarse and sparing diet, and attained to 169 years. But, perhaps, the most reliable case is the well-known historical one of old Parr, who reached the age of 153 years. It was certified that at the age of 120 he married a second wife, by whom he had one child. Being taken up to London "to see the King" by the Earl of Arundel, as a great curiosity, in his one hundred and fifty-second year, he soon thereafter died. The physician in charge made an autopsy in the case, and testified that the old fellow's death was occasioned by a change from a parsimonious to a plentiful diet. Old Parr was a farmer, and during all his life his habits had been entirely abstemious, his diet being solely milk, cheese, coarse bread, whey, and small beer. Perhaps, however, in his dotage he resembled old Ross, of Pottern, who lived till all the world was weary of him. In our own time we have many instances where the traditional seventy years have been exceeded. There is the late Emperor of Germany, whose age was ninety-two, and Lord Palmerston, who was eighty-three. Mr. Gladstone is now in his seventy-ninth year. Marshal McMahon is eighty-one; Meissonier is seventy-six; Robert Browning has just died at seventy-eight, and Dr. Oliver Wendell Holmes, who it is pleasant to think is still with us, is eighty.

It was the opinion of both Addison and Montaigne that nothing in history was more imposing or affecting than the accounts of the behavior of eminent persons in their dying hours. Regarded from the physician's point of view (*i. e.*, the physical), eminence or non-eminence is equally unimportant. It is somewhat surprising that so little of any value has been written on this momentous subject of death. Bichat endeavored to present a view of the changes in the system which are immediately concerned in the extinction of life. But even this was only one branch of the subject, and was far from exhausting it. But the state of knowledge compelled him to rest content with a general outline, although it was an outline drawn by a master's hand. Briefly stated, animal life and death may be defined as *fermentation* and *putrefaction*. Life is sustained by a process which may be called oxydization or combustion, or, broadly speaking, fermentation. To arrest this process, or too rapidly to accelerate it, is to cause death. Leibnitz, who had profound theories of life, had one of death also. He believed that generation is only the evolution of an animal already existing in form, and that death is merely the reënvelopment or involution of the same animal, which does not cease to subsist, but continues living. According to this view, birth and death are only changes in the order and adjustment of the principles

of vitality—merely transformations. The eternal and imperishable germs of life neither cease nor begin. But what *does* begin and also perish is the organic machinery, of which these germs, so to speak, are the motive power. It is as if a man laid aside his clothes. Thus disrobed, he is naked, but is not, therefore, necessarily dead. So with the soul's corporeal environment, the body. To the man himself (the real man), the body is but as a suit of clothes. Such were the views of the philosophical Leibnitz ; and such also evidently was the view taken by two equally philosophical, if not equally scientific, minds, those of St. Paul and Shakspere.

It is the phenomena which precede, accompany, and follow this disrobing that we call physical death, which will concern us in the present paper.

Before proceeding further, it will be well to say a few words anent a popular error in connection with a series of events which precedes many cases where death is not sudden, known by the name of the "death agony." So far as this supposititious "agony" is concerned, its reality may be disputed. Its supposed existence furnishes a palmary instance of the fallacy of appearances, and of the folly of judging by them. Admitting a limited number of exceptions, to which all rules are liable, I firmly believe, judging from my own and others' medical observations at death-beds, that, as a rule, it is probably safe to say that *birth is a much more painful process than death ! A priori*, there exists no obvious, palpable reason, why death should be painful, much less why it should necessarily be an agonizing process. But, on the contrary, there seem to exist many excellent reasons why it should not be either one or the other. Firstly, a fallacy is involved in the very phrase "death agony." It is because in a certain proportion of cases dissolution is accompanied by visible spasm and distortion of the countenance, that this idea has obtained. Yet, it is as nearly certain as anything can be that these distortions of the facial muscles are not only painless, but take place unconsciously. They may be likened to the sudden flickerings in the dying flame of a candle, or to the irregular motions in the wheels of an engine, whose steam is being gradually withdrawn. Again, preceding death, in many instances, a comatose, or semi-comatose, stage supervenes, and it is altogether probable that more or less complete unconsciousness then prevails. There is also another species of evidence which is available on this subject. Many persons who were almost drowned have been resuscitated. Now, it is very extraordinary that all these, in relating their experiences, tell, practically, the same story. After a few moments of painful struggling, fear and anxiety pass away, and a state of tranquillity succeeds. They

see visions of green fields (it is curious how invariably this optical illusion occurs), they, in some cases, hear pleasing music ; and, so far from being miserable, they experience a degree of ease and comfort of mind and body which is delightful. One proof that these descriptions are veracious, is the fact that in almost every instance where attempts at resuscitation prove successful, the resuscitated persons protest energetically against being brought back to life, and declare that restoration is accompanied by physical pain and acute mental misery. They reproach the agents bitterly, and upbraid them for withdrawing them from pleasing and paradisiacal scenes, to re-usher them into pain and wretchedness. I say it would be passing strange that the same series of phenomena should be so constantly reported if they were never experienced. There is no doubt that they are experienced, and they, therefore, confirm the proposition herein advanced, that death, as a rule, is by no means a painful process. In fact, the contrary theory is a pure assumption, and nothing else. "I wish," the famous Dr. Cullen, on his death-bed, faintly intimated to a friend, "I wish I had the power of writing or speaking, for then I would describe to you how pleasant a thing it is to die." And, Sir Walter Scott in his last moments exclaimed : "I feel as if I were to be myself again."

Especially in death at old age is the death-agony theory disproved. It is but rarely that we see a death which can be said to be the result of old age pure and simple. In those who live longest, some disease is usually developed ; but, occasionally, the body wears itself out, and without a malady or pain, sinks by slow degrees to decay. The organs have less life, the functions less vigor ; sight grows dim, hearing dull, touch obtuse ; in a word, vitality is reduced to a minimum. Life and death are, as it were, commingling. The strength is enfeebled, the bones are brittle, the muscles stiff, the ligaments dry, the arteries and veins atheromatous, and consequently inelastic ; the circulation is weak; a slow decay has invaded every fiber. Lord Chesterfield, in this state of decrepitude, was unable to support the rapid motion of a carriage, and, when about to take an airing, said (in allusion to the slow pace at which they crept), "I am now going to the rehearsal of my funeral." In such cases there is not, when the end comes, even the semblance of any death agony. As a smouldering candle, which, toward the last, occasionally flickers into a momentary brightness, so do such lives go out. There is no sudden cessation of vitality, but a gradual, and often almost imperceptible extinction. So true is this, that it is often difficult to fix the precise moment of dissolution. I distinctly remember, in my own medical

experience, one case of this sort, where, in answer to the friends' queries, I could only reply: "He may, or may not be dead; but if life is not yet actually extinct, it is practically so," and desired them to cease all further attempts at restoration, and leave the patient in Nature's hands; or, more properly speaking, in the hands of Him who is the Author of nature as well as of man. Dr. Baillie (very famous in his day as a practitioner in London, also a pupil of William Hunter,) once said, that all his observations of death-beds inclined him to believe that Nature intended we should go out of the world as unconscious as we came into it. "In all my experiences," he adds, "I have not seen one instance in fifty to the contrary." "To die by inches" has a dreadful sound, until we learn by observance that Time is the gentlest of all destroyers. The Latin proverb is true which avers that *The scythe of Time is more powerful than the club of Hercules.* But another expression so often used—"second childhood"—is a misnomer, because it involves a fallacy. There is no more resemblance between the first and so-called second childhood than there is in the vegetable world between immaturity and decay. There is an enormous difference between the prattle of youth and the prattle of old age; the one is unripeness, the other decrepitude. Thus do we live in the midst of fallacies, which are perpetuated by the common speech.

All portions of the body, even the most solid, as the bones and teeth, are undergoing a continual but slow change. Their old cells are being destroyed, and new ones are being formed. Throughout the entire organism there is a continuous removal of effete tissue-matter, and a corresponding deposition from the circulating blood of new material. Every physical action is done at the expense of the organized structure; in other words, in order to attain motive power, fuel must be burnt; this fuel consists of minute particles of various organs. This burning is properly called *molecular* death; but it is a death which, paradoxical as it may appear, is essential to life. Now, the stoppage of the heart's action, and that of the lungs also, (circulation and respiration,) is known as *somatic* death, or death of the body in its totality. Sir Thomas Watson remarks, in his Lectures on the Practice of Physic, that life rests on a tripod, whose three vital supports are the heart, the brain, and the lungs, and that through the impaired function of one or more of these organs, the tendency to death is expressed. It is not easy to give a definition of death, and it is still more difficult to give one of life. Definitions are proverbially difficult. However, broadly put, life, in its last analysis, and in its lowest forms, consists of functionally active protoplasm. The vital

properties of protoplasm depend on a certain definite arrangement of certain molecules, and, as long as these molecules are so arranged, *life* is present. When, with man, death is said to have occurred, many of the phenomena associated with life may still be detected. The blood may yet move in the blood-vessels, heat may still be generated, glands may secrete, and the hair and nails may grow. General systemic, or somatic death can never exist except as a result of general molecular death. According to an idea, originating in the East, death in the bloom of youth was attributed to the attachment of some particular deity, who snatched his favorite to a better world. It was ascribed to Jupiter if caused by lightning, to the Nymphs if by drowning, to Aurora if it happened in the morning, and so on. During the most flourishing period of the arts of Greece, death was represented on tombs as a friendly genius with an inverted torch, and holding a wreath in his hand. The Hebrews had a fearful angel of death—Samaël—but he removes with a kiss those who die in early youth. The disgusting representations of death (a skeleton and a scythe) common amongst christian nations originated in the fourteenth century.

Bichat observed that animal life is made up of two orders of phenomena: (1) those of circulation and nutrition; (2) those that adjust the relations of the animal to its environment. He distinguishes organic life from animal life. Vegetables have the former, animals possess both. At the occurrence of death these two sorts of life do not disappear simultaneously. The animal life suffers the first stroke; the nervous system is first affected, and its operations retarded. Most commonly death occurs from some interference with the action of the vital organs, which, by the way, are not merely and only the brain, heart, and lungs, as stated by Sir Thomas Watson. The kidneys and the liver are certainly, in one sense, quite as vital organs as any of the three others. In zymotic fevers (*e. g.*, variola, scarlatina, typhus, and enteric fevers) the real cause of death may be defined by that much-abused term "blood poisoning." In these and such like diseases, the blood is truly poisoned, that is to say, chemically altered, and becomes, instead of a life-giving, a death-dealing fluid, carrying poison and destruction to every part.

Hemorrhage is a frequent cause of death. If the vital fluid is allowed to escape in large quantities from a severed artery or vein, pallor of the skin appears, coldness comes on, the breathing is sighing and intermittent; sight becomes dim; cold sweat covers the body; the *facies Hippocratica* soon manifests itself; the pulse grows weaker, and ere long the heart stops. "Sudden death," says a French writer,

"unconnected with outward and accidental causes, may occur in various ways. Very violent impressions on the feelings sometimes abruptly check the movements of the heart and produce a mortal swoon." Persons have been almost instantly killed not only by grief, but also by joy. Apoplexy and aneurism both kill, though in very different ways. There are also causes of sudden death which we do not yet fully understand, and therefore cannot explain. In many such cases an autopsy in no way discovers the true cause. Every physician knows this. Indeed, we may still exclaim with La Place, "What we know is little; what we do not know is immense."

PREMATURE BURIAL.

Doubtless, in former times, before the heart's functions and the circulation of the blood were discovered, persons were occasionally buried alive, though many have been falsely stated to have been so buried. Some apparently authentic instances are on record. Facts collected by Bruhier and Lallemand furnish pretty strong rebutting evidence against sceptics in this matter. For instance: A rural guard, having no family, dies in a little village of Lower Charente (France). Hardly grown cold, his body is taken out of bed and laid on a straw ticking, covered with a coarse cloth. An old woman, a servant, is charged with the watch over the death-bed. At the feet of the corpse were a branch of boxwood, put into a vessel filled with holy water, and a lighted taper. Toward midnight the old watcher, being weary, fell asleep. Two hours later she awoke, surrounded by flames from a fire that had caught her clothes. She rushed out, crying for help, and the neighbors, running together at her screams, saw in a moment a naked spectre issue from the hut, limping and hobbling on limbs covered with burns. While the old woman slept, a spark had probably dropt on the straw bed, and the fire it kindled had aroused both the watcher from her sleep, and the supposed corpse from his seeming death. It is interesting to learn that, under proper care, he recovered from his burns, and grew sound and well again.

Philip Small, an English accoucheur, celebrated in his day, relates that on one occasion when he was summoned to perform the Cesarean operation, the by-standers, convinced that the woman was dead, urged him to proceed with it. "I supposed so, too," he says, "for I felt no pulse in the region of the heart, and a glass held over her face showed no sign of respiration." Then he plunged his knife into the body, and was cutting among the bleeding tissues, when the subject awoke from her swoon.

Vesalius, the eminent anatomist, opened an apparently dead body, in which the exposed heart was seen still beating; and the Abbé

Prevost, being struck down by apoplexy, was regarded as dead, but recovered consciousness when cut by a scalpel, only to die immediately afterward.

We occasionally meet even now-a-days, persons whose lives are rendered chronically miserable by the fear of being some day buried alive. I have myself met several such.

About the middle of the last century there died near Manchester, England, a maiden lady, Miss Bexwick, who had a great horror of being buried alive. To avoid this, she devised an estate to her medical attendant, Mr. Charles White, on condition that the doctor paid her a daily morning visit for twelve months after her decease. In order to to do this, it was requisite to embalm her, which he did. She was then placed in the attic of the old mansion in which she died, and in which the doctor took up his residence. Upon his leaving it, she was removed to the house erected by him in King street, Manchester, and which stood on the ground now occupied by the Town Hall. At the death of Mr. White, the doctor, she was sent to the Lying-in Hospital, where she remained till moved to her present resting-place, the Museum of Natural History, where the mummy is suspended in a case with a glass door.

THE SIGNS OF IMPENDING DEATH.

These are many and variable. In no two instances can they be said to be identical, yet several are common to many cases. From a large number of statistics, it is now pretty well settled that the least mortality is during mid-day hours, and the greatest during the early morning hours—from three to six o'clock. Shakspere, who observed everything else, observed and recorded some of the premonitory signs of death also. In the account of the death of Falstaff they are accurately described—the sharpness of the nose (*his nose was as sharp as a pen*); the coldness of the feet, gradually extending upward (an almost infallible sign); the picking at the bed clothes (*carphologia*); and "the playing with flowers," a sign showing the weak and puerile state into which the once acute mind had fallen.

For some time before death, indications of its approach become apparent to observers. Speech grows thick and labored; the hands, if raised, fall instantly; the difficult respiration causes insufficient oxygenation of the blood; the heart loses its power to propel the blood into the extremities, which consequently become cold; a clammy moisture oozes through the pores of the skin; the voice grows weak, and husky or piping; the eyes begin to lose their lustre.

In death at old age there comes about gradually a dulling of all the bodily senses, and many of the mental faculties. The brain

functions are imperfectly performed; memory fails (in varying degrees); imagination goes out like a candle; judgment wavers, and becomes an unreliable guide. The muscles and tendons get stiff, rendering digital operations which were previously easy, difficult or impossible. The voice breaks, and becomes a feeble, piping treble. The cords of the tabernacle are loosening. Solomon well describes this gradual approach of senile decay. Small noises irritate, (the grasshopper becomes a burden,) sight becomes dim (they who look out at the windows are darkened,) etc. Nutrition still goes on, but feebly, and with difficulty. Digestion is disturbed and impeded. The secretions are insufficient, or are vitiated, and not infrequently cease. Capillary circulation is clogged; this being due in part to the weakening of the heart-muscle, and in part to the calcareous deposits in the shrunken arteries. Finally, the central organ of the circulation comes to a stop, a full stop, and this stoppage means dissolution. This is the death of old age, but it is now comparatively rare. Few attain to it.

Among the several *minor signs* of impending death, these may be mentioned: (1) The embarrassment of speech; this, says Esquirol, is a mortal sign. (2) No wish to recover is doubtless often a sign of death's approach. (3) Loss of interest in things which formerly were interesting; to change one's habits smacks of death, says the Portuguese adage. Dr. George F. Shrady, of New York, a few years ago pointed out an up-and-down motion of the larynx (*Pomum Adami*) as a new sign of impending death. I have twice since been able to observe this sign, and can testify to its value, for in both instances its appearance was speedily followed by death.

SIGNS OF ACTUAL DEATH.

It is the opinion of many of the laity, and even also of some physicians, that there exist no positive and indisputable signs of death. But this is an error. Doubtless many persons, due to this false belief, pass much of their time in fear and trembling, from the dreadful apprehension of the possibility of being buried alive. I have myself personally known two ladies who so feared and suffered. Such a chronic fear is surely worse than death itself; truly they die (as the poet says) a thousand deaths in fearing one. Now, *positive signs of the actual occurrence of death do exist*, and are known (or ought to be) to all educated physicians. There are at least five (5) signs which may fairly be characterized as indubitable, as, so to speak, pathognomonic of the last great human malady, death, namely: (1) cessation of circulation and respiration; (2) cooling of the body; (3) cadaveric

rigidity; (4) resistance of the muscles to galvanic currents; (5) putrefaction.

Let us consider these in detail. (1) If the heart's action and also respiration have totally ceased for one hour, death has occurred. Dr. Taylor, in *Medical Juris.*, rightly says: "It is impossible to admit that the heart can remain for even half an hour in a state of inaction in a human being, and then spontaneously recover its activity."

In 1848 the Paris Academy of Sciences awarded a prize for a presentation of reliable signs of death. "Death," says the reporter of the commission, "is certain when positive cessation of the pulsation of the heart in the subject has been ascertained, which is immediately followed, if it has not been preceded, by cessation of respiration and of the functions of sensation and motion."

(2) *Cooling of the body.* The average temperature of the human body is about 99° F. This temperature is during life maintained irrespective of the temperature of the external air. When death occurs, the body begins to cool, and this process is continued until it cools down to the temperature of the surrounding atmosphere. The exact time required for this cooling varies, but it is usually accomplished in less than twenty-four hours, sometimes in fifteen hours, being accelerated or retarded according to circumstances.

(3) *Cadaveric rigidity.* This does not begin until several hours after death. Disappearance of general muscular contractility does not occur until still later, to be in its turn followed by putrefaction. In about six hours after death, and while the body is gradually cooling, a careful examination will show that the muscles of the limbs are becoming hard, the joints stiff, and the trunk unyielding. But this general contraction has succeeded to an opposite condition (which condition generally obtains at death),—*Relaxation*, shown by the dropping of the lower jaw, and other signs, at the moment of dissolution. But, after some hours of temporary rigidity, relaxation once more occurs, and, after this, putrefaction sets in.

(4) *Resistance of the muscles to galvanization.* The existence of this sign can be easily verified by the application of an ordinary galvanic battery. If life be present, when the current is passed through a muscle, the muscle responds by contracting. This contraction is proof that life exists, despite all appearances to the contrary. If it do not so respond, but remains rigid and immovable, life is extinct. There can be no disputing about this sign.

(5) *Putrefaction* generally commences about forty hours after death. Its first effects usually appear on the skin over the abdomen, in the form of a greenish discoloration, which gradually spreads over

the whole surface of the body. Simultaneously certain moist and soft parts, as the eye and the lining of the mouth, begin to soften and decay; while, at the same time, the cadaverous odor is developed, which is at first a slightly moldy and fetid smell, but which soon becomes a pungent, mephitic, and ammoniacal stench. Gradually the flesh sinks in and grows watery, and one by one the various organs cease to be distinguishable. It is a somewhat curious fact that (in the female) the last organ to decay is the uterus. Putrefaction furnishes the sole *absolute* sign of death. It consists in a slow oxydation of the organic constituents of the body, brought about by the action of the air under the influence of bacterial organisms.

Besides the aforementioned, which may be called the *major signs*, there are also recognisable, or obtainable, soon after death, in many cases, certain other *minor* signs which are more or less diagnostic and reliable: (1) After death *the contractility of the skin is lost.* When a cut is made through the skin of a dead body, the edges of the wound collapse; while a similar lesion inflicted during life present an open or gaping appearance. (2) *The appearance of a green tint on the skin of the abdomen*, accompanied by separation of the epidermis, is a certain sign. (3) *When a thread is tied tightly around the finger*, if the person is living, the part beyond the ligature will become bluish-red in hue, while a narrow white ring will surround the finger where the ligature was applied; after the stoppage of the circulation no such appearance will be found. (4) If bright steel needles are thrust into the flesh during life, they will become tarnished from oxydation; *after death they will retain their brightness unchanged.* (5) If ammonia be injected under the skin during life, it will cause a deep red congestion of the part; *no such change occurs after death.* (6) The test of the *mirror held before the mouth and nostrils* (a test well known to Shakspere), is still available in some cases, but is not absolutely reliable. (7) At death *the pupil loses its mobility*, which mobility may be tested by passing a lighted candle close to the eyes; *the cornea loses its transparency*, also its lustre and sensibility. (8) There is developed the *facies Hippocratica.* (9) Later appear the marks of *post mortem lividity* (sugillations, livores), which are precursors of putrefaction. These are caused by the diffusion of the hematin of the blood from the red corpuscles.

Such are the signs of death.

(*To be concluded in July number.*)

Society Proceedings.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON ORTHOPEDIC SURGERY.

STATED MEETING, APRIL 18, 1890.

V. P. GIBNEY, M. D., Chairman.

HEMATOMA OF THE STERNO-CLEIDO MASTOID MUSCLE.

Dr. A. B. JUDSON presented a patient, four and a half weeks old, who had been referred to him as a case of congenital torticollis. There was a long fusiform tumor in the course of the muscle, the hardness of which suggested a short and fibrous sterno-cleido mastoid. There was, however, but little shortening, and no wry-neck. The condition was supposed to be the result of injury to the muscle in parturition. Dr. B. E. Hadra, of Texas, had reported two cases which had been relieved by tenotomy, and Dr. F. D. Brooks, of New Hampshire, had followed with a report of three cases, which had recovered by expectant treatment, or the use of friction and local applications. In the present case a favorable prognosis had been given without special treatment.

A NEW BED FOR USE IN HIP DISEASE.

Dr. A. M. PHELPS presented a little girl with hip disease, who had been treated on an improved surgical bed, which was also exhibited to the Section. When she came under his care, there was flexion nearly to a right-angle, adduction, sinuses and an abscess, and the liver was already enlarged. His improved bed consisted of the ordinary iron bedstead found in hospitals, to which was added a convenient arrangement for the application of traction. The iron bedposts at the foot of the bed were continued upwards much higher than those at the head. An iron cross-bar slid up and down on these footposts, and could be fastened at any height, so as to make traction at any angle desired. This cross-bar carried a pulley, which could be adjusted laterally so as to make traction directly in the line of deformity. The side-bar of the bedstead was also fitted with an adjustable pulley for the purpose of making lateral traction. This apparatus cost about five dollars, and could be supplied by Reynders, either with or without the bedstead.

The patient whom he exhibited had been treated by traction in this bed; but this was not sufficient to overcome the deformity. Under chloroform, the tensor vagina femoris and fascia lata, the adductors longus and magnus, and the contracted anterior border of the

glutei muscles and the rectus femoris, were divided. Traction with a weight of eight pounds was then applied in the line of the deformity, and a force of two pounds at right-angles to this. After two months, the deformity had been for the most part reduced, but his splint, with crutches and a high shoe, were then applied to prevent relapse, and they would be continued until the case was cured.

Dr. R. H. Sayre presented

A CAST OF CONGENITAL LOCK-JAW.

No definite history could be obtained concerning this boy, except that he was five years of age, and that nothing unusual had been noticed about the jaw until a short time ago. The boy was quite intelligent, and no other joints were affected. The jaw appeared to be subluxated backward, and the deformity was presumably congenital. The recession of the jaw, and the apparent atrophy on both sides, added to the interest of the case. Dr. Sayre said that before adopting any operative measures, he would attempt to relieve the case by stretching; and for this purpose would employ a wedge-shaped instrument devised by Dr. L. W. Hubbard, and presented last year before the Society of the Alumni of Bellevue Hospital. It consisted of two plates of steel, fastened together by a separable hinge, and capable of being separated at the other end by turning a screw. Having partly separated the jaws of the instrument, a cork could be inserted between the plates near the hinge, and the action of the screw reversed when the instrument would exert considerable pressure on the molar teeth.

Dr. R. W. Townsend presented two cases of

RACHITIC POSTERIOR CURVATURE OF TIBIÆ.

He said that the dispensary records showed that about two years ago there was a well-marked knock-knee and rachitis in one case, who returned last week with the present peculiar condition of the tibia. Since then, the other case, with a similar deformity, had come under observation. The latter case presented an increased growth of one portion of the tibia, amounting almost to an exostosis. It also showed a well-marked "rachitic rosary." Macewen had called especial attention to these secondary bone formations on the inner side of the knee in cases of knock-knee. The posterior curves of the tibia were rarely seen, these being the only cases met with during the past two years at the Hospital for Ruptured and Crippled.

Dr. S. KETCH reported a case of

RHEUMATIC (?) ARTHRITIS OF KNEE.

On July 3, 1888, he was asked to see the following case in consultation with Drs. Dawrence Johnson and N. J. Hepburn:

E. S., single; twenty-two years of age; having a good family history, had been perfectly well up to the present illness, and denied having had any venereal disease; an examination of the urethra failed to show the presence of a urethritis. Early in May, 1888, he had a slight attack of what was considered to be rheumatism in the left elbow and right thumb, which left these joints in a few days, and lodged in the right knee. No other joints became involved; but he grew steadily worse under treatment for rheumatism, and emaciated rapidly after the involvement of the knee. When first seen by Dr. Ketch, he presented the facies of extreme suffering; the knee-joint was flexed beyond ninety degrees; and was very much swollen and excessively tender; there was manifest atrophy of the thigh and calf; pulse 120; temperature, 103.5 degrees F. He had had no chill. Anodynes were constantly required, and his general health was failing rapidly. The urine was abundant, and was free from albumen. Urates were in excess. The acute symptoms continuing unabated after the constant application of ice, and the administration of morphine and the salicylate of soda for several days, the patient was etherized on July 12th, and the knee straightened with the exercise of as little force as possible. Adhesive plasters were applied from below the knee to above the malleoli, and plaster-of-Paris over this with reinforcements by steel bars, the joint being left exposed. The limb was elevated, ice bags applied to the knee, and traction made in a straight line by a weight of ten pounds. This was followed by speedy relief, and a reduction of the temperature to 100 degrees F. On the following day, the swelling had greatly increased, but the limb could be handled quite freely. The joint was firmly bandaged, and the ice continued. On July 16th, Dr. Gibney saw the patient, and advised a continuance of the treatment regardless of the swelling. The patient did not then require anodynes; appetite was improving; and the temperature had fallen to ninety-nine degrees F. Ice bags were continued during the month of August, and the local tenderness diminished more rapidly than the pain on motion. When the splint was removed early in October, there was scarcely any motion at the articulation, and the joint could be freely handled without complaint. A retention splint was applied, and the patient allowed to go about on crutches. In April, 1889, the anchylosis was complete and he was enabled to return to work. He could at present walk long distances without fatigue, and his general condition was good. The chief points of interest in the case were regarding the etiology and the treatment. He believed that there were cases of rheumatism like this one, in which the rheumatic process was modified or entirely changed in character. The presence of a poison in the system was undoubted; but it was remarkable that it should have been so mild at the time the elbow and thumb were attacked; and then have become so concentrated in the knee-joint as to practically destroy it. Rheumatoid arthritis was usually a chronic process involving numerous joints, and eventually crippling them; but such a process was not found in the present instance. The subject of treatment was important as bearing on the treatment of joints affected with rheumatism; and he was positive that his case would have resulted in a bad deformity, if he had not in the beginning of his treatment secured a good position of the limb.

DISCUSSION.

Dr. GIBNEY had seen a great many cases of hematoma of the sterno-cleido-mastoid muscle, and they invariably got well. He had often wondered whether in some cases of congenital torticollis, actual shortening of the muscle had not been caused by long-continued holding of the head in one position, necessitated by the presence originally of a large hematoma. In these cases of hematoma, there was probably laceration of some of the muscular fibres, with escape of the blood into the sheath, or into the muscular tissue itself.

Dr. N. M. SHAFFER said that he had made measurements of the length of the sterno-mastoid muscle in these cases, as well as in normal cases, and his observations showed that there was an arrest of development in the affected muscle, which suggested a possible central lesion, involving the spinal accessory nerve. These cases might arise from traumatism; but unless the destruction of muscular tissue was very great, it would not account for the total arrest of growth.

Dr. KETCH thought that the existence of some deformity in Dr. Phelps's case after such extensive division of the muscles, showed the fallacy of depending altogether upon dividing muscles for the rectification of the deformity of hip disease. As long as the bone disease was active, and muscular spasm was present, deformity would return from this spasm, even after division of the muscles.

Dr. SHAFFER also thought that division of the muscles offered only a temporary relief. He had frequently seen recurrence of the deformity after such a procedure in disease of various joints, and especially in cases of tetanoid paraplegia. An examination under ether would determine the amount of muscular resistance; and the breaking up of the intracapsular and extracapsular adhesions, together with subsequent maintenance of the straight position, where all that could be expected in the way of preventing ultimate deformity.

Dr. R. H. SAYRE said that much less traumatism was inflicted by dividing the muscles first, rather than by trying to reduce the deformity with the muscles in a state of tension. Dr. Ketch's remarks simply emphasized the importance of proper mechanical treatment after division of the muscles.

Dr. KETCH said that if the reduction of the deformity could be accomplished effectually by mechanical treatment alone, he did not see the advantage of the operation. In answer to a question from Dr. Phelps as to what he would do with a deformity which had not yielded after one year's treatment by traction, he said that such a deformity was probably due to intra-articular changes, and was independent of

the muscles; and he would therefore prefer exsection, or other bone operation.

Dr. JOHN RIDLON wished to join the ranks of those who believed in rapid reduction of the deformity—slow reduction caused needless traumatism. In some cases the deformity could be rapidly reduced by mechanical means and without anesthesia; others required anesthesia; and still others were not reducible even then. In this latter class, the first indication was a division of the soft parts, and the second was to maintain the good position until a cure was effected. The average case of flexion through an arc of forty-five degrees, required from twelve to eighteen weeks of treatment with the traction splint for its reduction; and the advocates of the traction splint had just confessed that the deformity would recur after such treatment. The deformity should be overcome in at least a fortnight. Thomas' hip-splint would keep the leg straight, and prevent flexion, adduction, and abduction.

Dr. A. B. JUDSON had not found that the muscles seriously interfered in the acute stage of the disease, with the reduction of the deformity; and he considered that the reduction could be effected by slow and painless methods, without any harm to the patient. The difficulty in overcoming the deformity was a purely mechanical one, arising from insufficient leverage—only the short distance from the acetabulum to the crest of the ilium.

Dr. PHELPS, in closing the discussion on his case, said that the muscles were not divided to overcome reflex muscular spasm, but to overcome deformity; and in obstinate cases of long standing, like the one just presented, this was a safe procedure; while excision of the hip-joint was a serious one. He had not wished to cut the muscles more deeply, and the deformity, although not completely reduced at the time of operation in October, was being constantly diminished by the treatment employed. Statistics showed that a very small percentage of cases treated solely by mechanical means, recovered without deformity; and therefore a resort to operative methods in a certain class of cases, and subsequent mechanical treatment, offered better hopes of success. He would be sorry to cut a tendon and have the case relapse—it would indicate improper treatment. He did not believe in trying to overcome the deformity by Thomas' splint, or any other. During the treatment, in order to get proper leverage, and hold the patient quiet, a long splint was applied to the well leg, extending to the axilla, and the body, limb, and splint enveloped in plaster-of-Paris. No splint could overcome the deformity, or possibly prevent it, which did not pass up on to the thorax. The idea of

allowing the patient to walk upon a splint, or upon the diseased limb, was a heresy, which we would eventually renounce. The patient, in his opinion, should use crutches, and he thought that Thomas struck in the right direction; but the splint should be fitted to the patient, and not the patient to the splint. Extension in a line with the axis of the neck of the femur was also necessary to relieve intra-articular pressure by overcoming the contraction of the adductor and abductor muscles.

Dr. JUDSON thought the physiognomy of the case of partial-anchylosis of the jaw was one of arthritis, and the deformity was directly due to the inability to use the jaw, and was not the result of the peculiar shape of the bone. Operation seemed much more successful than the stretching process.

Dr. PHELPS concurred in this opinion, and added that in his experience good results had followed resection of *one* of the tempero-maxillary articulations, as anchylosis was usually found only in one articulation. An incision one and a quarter inches long was made along the zygoma, and the articulation exposed. Chiseling away the articular surface was all that was necessary to cure the case. His cases had presented evidence of arthritis. The anchylosed joint was always on the side of non-development.

Dr. SHAFFER remarked that if he had not heard the history of the case he would have supposed that the patient had had Pott's disease, and had been treated with an apparatus in which the chin-piece had been forced too far backward. He thought there was much rigidity on both sides of the jaw. If the parts relaxed under ether, the evidence would be in favor of arthritis, but if not, it would indicate a permanent contracture, and would demand operation.

Dr. GIBNEY said with reference to the case of posterior deformity of the tibia, that nothing but an osteotomy would correct the deformity. While under ether, the operator should endeavor to bring the fragments nearly into line and then apply retentive apparatus. Subsequently a supra-condyloid osteotomy would be needed. By doing a Macewen's or a Macormac's operation, the subsequent dressings would in great measure correct the antero-lateral curvature. He had frequently seen this occur, sometimes to a marked extent. It was possible that the long rest in bed might have made the bone more yielding.

Dr. SHAFFER thought that the case of arthritis presented by Dr. Ketch answered very well the complete description given by Niemeyer of arthritis deformans. He considered this nothing more than chronic articular rheumatism, and he had seen it both with and with-

out high fever. It closely resembled gonorrheal rheumatism, even in cases where gonorrhea could be absolutely eliminated.

Dr. H. W. Berg said that he had seen a case of gonorrheal rheumatism of the ankle joint, which was quite thoroughly anchylosed and did not recover its function for nearly two years. In such cases the lesion affected chiefly the soft parts, the inflammatory products binding down the tissues so firmly that the joint was virtually anchylosed.

Dr. R. H. Sayre had seen a severe case of arthritis similar to the one presented. After confinement to bed for eight months, suffering from severe pain and high fever, the knee-joint seemed to be absolutely anchylosed, and the patella immovable; but vigorous and persistent massage had secured, after about one year, pretty fair movement. The fact that the joint in the case presented was a little tender, was in favor of the anchylosis not being complete, for the tenderness arose from the pain caused by an almost imperceptible motion of the joint. Persistent and careful efforts at moving the knee-joint, not sufficient to cause pain lasting many hours, would probably give the patient a movable joint.

Dr. Judson called attention to the admirable position of the limb, remarking that a perfectly straight limb was much more stable than one bent at ever so slight an angle. These cases of stiff knee should wear a "lift" on the shoe of the well side, to enable the stiff knee to readily swing past the other, and so avoid awkward tilting of the pelvis at each step.

Dr. Phelps thought that in Dr. Ketch's case there was fibrous anchylosis, and that by breaking this up motion could be secured. In one such case, while forcibly reducing the deformity, the femur was fractured without the exercise of much force, and he called attention to this, because after prolonged rest in one position the bone frequently underwent fatty degeneration, sometimes only a shell of bone remaining. Union of the fracture in his case took place normally. He did not think there was much danger of exciting inflammation by forcible manipulation in these cases, unless the joint had previously been purulent.

Dr. Shaffer's experience had led him to believe that there was considerable danger of exciting inflammation by such treatment, and he would prefer a stiff joint in good position to incurring such risks.

Dr. Ketch, in closing the discussion, said that he believed his case belonged to a class which had never been accurately described. In ordinary cases of arthritis deformans there was involvement of other joints. This was not true of his case, and the sudden onset of

such acute symptoms, and the speedy occurrence of anchylosis, were certainly unique. His patient had far too useful a limb to make him desire to incur any risks by employing forcible manipulation.

BUFFALO OBSTETRICAL SOCIETY.

Reported by Wm. C. Krauss, M. D., Secretary.

Regular meeting held Tuesday evening, April 29th.

The essayist of the evening, Dr. W. S. Tremaine, spoke at some length upon Puerperal Hysterectomy, giving a brief history of the operation from its conception down to the present time. The technique of the operation was carefully and fully described, also the modifications, viz.: The improved Cesarean section or Sänger's operation, Porro's operation, and Thomas's operation or lapara-elytrotomy. Porro's operation is simply Cesarean section plus hysterectomy, the object being to prevent future conceptions. The statistics bearing upon these different operations, the treatment of the pedicle, drainage, etc., were all carefully taken up and presented with much completeness and precision.

DISCUSSION.

Dr. R. L. Banta.—I have had but two cases where it was necessary to do craniotomy, and two Cesarean sections. In one case I did craniotomy and the second time had rupture of the lower segment of the womb. Had a Porro been done the case might have been saved. I agree with the essayist that every obstetrician should know how to do a Cesarean section, but in all cases should call in an expert operator.

Dr. W. W. Potter.—The question of statistics is of considerable interest. The following from Dr. Harris, published in Volume II., Transactions of the American Association of Obstetricians and Gynecologists, shows the relative status of the Porro-Cesarean and Sänger-Cesarean operations:

Porro operations in 15 countries,	267;	women lost,	121;	children, dead or dying,	49.		
Sänger " 11 "	196;	" "	48;	" " "	17		
Porro mortality,	1 in $2\frac{1}{3}$.						
Sänger "	1 in $4\frac{1}{12}$.						
Porro operations of Italy,	92;	women lost,	44;	children, dead or dying,	14		
Sänger " of Germany,	92;	" "	13;	" " " "	8		
Porro operations of Vienna,	37;	women lost,	18;	women saved,	56	per cent.	
Sänger " " "	14;	" "	1;	" "	$92\frac{8}{7}$	"	
Porro operations of Austria,	61;	women lost,	18;	women saved,	$70\frac{1}{2}$	per cent.	
Sänger " " "	32;	" "	6;	" "	$81\frac{1}{4}$	"	

Porro operations of Germany,				41;	women lost,	21;	women saved,	48¾	per cent.	
Sänger	"	"	"	92;	"	13;	"	85½	"	
Porro operations of the United States,				9;	women lost,	7;	women saved,	22⅞	per cent.	
Sänger	"	"	"	33;	"	18;	"	45⅝	"	
Sänger operations in Dresden under 6 operators				31;	women saved,	27				
"	"	"	Leipzig	" 6	"	20;	"	"	18	Loss 8 women, or 1 in 9⅛
"	"	"	Berlin	" 5	"	8;	"	"	7	
"	"	"	Vienna	" 6	"	14;	"	"	13	
						73			65	

In a recent letter to Dr. Wathen, Dr. Harris states that "Cesarean statistics are changing daily; about six Sänger operations are performed on an average monthly, and case No. 208 is now in her tenth day. If she recovers, it will make 16 out of 34 for the N. S., and 157 out of 204 for the world, in twelve countries, with 187 children also saved. The Porro operations are 269, with 147 women saved and 229 children delivered alive." Much can be said about the Sänger and Porro operations, the others are of secondary importance. Porro's is conceded to be the easier of the two, as considerable expertness is necessary to do a Sänger. It is best, however, to leave the question of choice to a skilled operator in the presence of his patient.

Dr. P. W. Van Peyma.—I was once called by a midwife to see a case, and found the head low down, with one arm engaged. Gave chloroform, turned and delivered the child. On making an examination found that a rupture of the lower segment of the uterus and upper segment of the vagina had taken place. On the seventh day patient was up and around. Once did a post mortem Cesarean section and found rupture of the uterus, probably due to large doses of ergot administered by the midwife. Some operators decline to do craniotomy for theological reasons.

Dr. C. C. Frederick.—Why not in Sänger's operation remove the tubes and ovaries; it will unsex the woman and prevent future conceptions? Physicians would rather resort to craniotomy than call in an expert to do a Cesarean section.

Dr. Tremaine.—The reason that Dr. Banta has had so few cases for Cesarean section, is because his cases have been of the robust kind. In the other classes, obstetrics becomes more difficult every day. Rupture of the uterus always calls for Cesarean section. In regard to removing the tubes and ovaries in Sänger's operation, time is the important question, because the woman is debilitated by long labor, hemorrhage, shock on opening the abdomen, and the like.

BUFFALO PATHOLOGICAL SOCIETY.

Reported by E. A. SMITH, M. D., *Secretary.*

Regular meeting was held Friday, April 18th. The president, Dr. DeLancey Rochester, in the chair.

Dr. M. A. Crockett read a paper on Arteritis, and was followed by Dr. A. W. Hurd, who read on The Symptomatology and Treatment of Arteritis. Dr. C. C. Frederick then read on Phlebitis and Lymphangitis, its Etiology and Pathology.

DISCUSSION.

Dr. Eli H. Long said that the two sets of papers had interested him very much, and had caused him to compare arteritis and phlebitis. Some cases of obscure thrombosis have been ascribed to phlebo-sclerosis of the pulmonary veins. In connection with lymphangitis he called attention to lymphadenitis, this was sometimes seen in perfectly healthy individuals, and it gave rise to palpable lymphatic glands, which were not at all indicative of syphilis or tuberculosis.

Dr. Parmenter was glad that Dr. Long had called attention to the frequent enlargement of the cubital glands, and said that they were often neglected by the profession when examining for syphilis. In cases of epistaxis and acute exacerbations of chronic gastric disease he always looks to the condition of the arteries, for he has found that disease of the arteries often seems to stand in causative relation with these cases.

Dr. Grove said that in his experience cases speedily die which combine persistent headache, epistaxis, and the ophthalmoscope shows a recent retinal clot.

Dr. Krauss mentioned a case where a microscopical examination of a specimen showed a perfect picture of phlebitis, while the accompanying artery was entirely normal.

Dr. C. C. Frederick said he had often observed that in the aged, when there exists a moderate arterio-sclerosis, alcohol was of much benefit. He wondered whether this was due to its effects on the heart, or its dilating effect on the vessels.

Dr. B. G. Long mentioned a case where to all appearances the man was entirely healthy, save a slight gastric trouble. Examination of the urine gave a trace of albumin and a few hyaline casts. At another examination no albumin or casts were found. This man died suddenly eight weeks after the first examination.

Dr. C. C. Frederick mentioned a case of a young man who had been rejected by two insurance orders because of a slight trace of albumin in the urine. If this man was given whiskey in moderate

amounts for forty-eight hours no albumin could be found in the urine for a few days after.

Dr. CROCKETT said, closing, that artheroma and calcification of arteries were not synonymous and should not be mixed.

Dr. HURD said that in arterial disease the gastric trouble was often ascribed to hepatic arteritis.

PROCEEDINGS OF THE BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Reported by W. H. BERGTOLD, M. D., *Secretary*.

REGULAR meeting, held May 6th, at 8.45 P. M., at No. 14 West Mohawk street.

The president, Dr. A. A. HUBBELL, in the chair.

In the absence of Dr. Bergtold, Dr. J. Falk acted as secretary.

Dr. E. N. PFOHL was elected a member.

Dr. HERMAN MYNTER presented a patient on whom he had made a resection of the elbow for tubercular arthritis.

Dr. GEO. E. FELL read a paper on The Liver in Health and Disease, and was followed by Dr. W. H. HEATH, who spoke on Syphilis.

DISCUSSION.

Dr. MYNTER believes in the curability of syphilis, as he had seen a case, which was declared to be specific by an eminent professor of Copenhagen, come to him five years later with a genuine chancre.

Dr. HARTWIG does not believe in the curability of syphilis. Dr. Hartwig asked Dr. Heath whether he had ever seen a case of syphilis hereditaria tarda, so-called. He had lately had a case in the person of a boy eleven years old. Dr. Hartwig also spoke of the use of chromic acid in treating mucous patches.

Selections.

EXCERPTS.

BY JOHN A. MILLER, M. A., PH. D.

Professor of Medical Chemistry and Toxicology in the Medical Department of Niagara University.

REDUCING SUBSTANCES IN URINE. By H. H. Ashdown. (*Brit. Med. J.*, 1890, i. 169; *J. Chem. Soc.*, March, 1890, pp. 279.) *Glycuronic Acid* reduces Fehling's solution, and is therefore apt to be mistaken for sugar in urine. It can only be identified with certainty by isola-

ting it and examining its properties. A ready distinction, however, between sugar and this substance is that the addition of yeast to the former, even when dissolved in the urine, causes the occurrence of the alcoholic fermentation, and to the latter does not.

The diagnosis of diabetes, in man, must in the future be more carefully made, as in one case the reducing substance was found to be wholly glycuronic acid; the man in whom this occurred is in perfect health, and no symptoms of diabetes are present. As this is the only case of the kind recorded, it will be a question of great importance in relation to life insurance to ascertain whether this state of things occurs in other cases.

In animals the appearance of glycuronic acid in the urine is readily produced by the administration of certain drugs, camphor, phenol, etc.

In the author's research the following experiments were made:

The urine secreted after drugging with morphine, contains not sugar, but glycuronic acid; after the administration of chloroform, glycuronic acid, and not sugar, is present. The so-called glycosuria of curare poisoning is not due to the presence of sugar, as there is no fermentation with yeast. The administration of ether does not cause the appearance of any reducing substance in the urine. After section of the renal nerves, a paralytic secretion occurs. This contains a reducing substance, which was found to be glycuronic acid.

Nitrogenous Constituents of Human Urine. By E. Schultze. (*Pflueger's Archiv.*, 45-401; *J. Chem. Soc.*, March, 1890, pp. 280.) The investigation was carried out on a human subject, its object being to compare the variations in the amount of urea-nitrogen, and the nonurea-nitrogen in relation to diet. The conclusions arrived at are, viz.:

1. The urea-nitrogen increases in proportion to total nitrogen as the diet approaches a purely albuminous composition.

2. The uric acid increases absolutely, but diminishes relatively, both to total nitrogen and to the urea on a meat diet, especially if large quantities of alkaline water be taken, and alcoholic drinks and narcotics be avoided.

3. Probably in fever the same relation of uric acid to total nitrogen and urea holds.

4. The use of abundant quantities of water and withdrawal of alcoholic beverages in cases of gout has thus a scientific basis.

Effect of Feeding on the Secretion of Amidic Substances. By E. Schultze. (*Bied. Centr.* 18-733; *J. Chem. Soc.*, March, 1890, pp. 278.) The results of the author's experiments are, viz.: (1.) The

nearer the feeding of persons approaches to a pure animal diet the greater is the amount of nitrogen as urea, in proportion to the total nitrogen of the urine. (2.) The relation of uric acid to the total nitrogen decreases with meat diet, as opposed to feeding with mixed food. This occurs in a still greater degree with a meat diet, with use of abundance of alkaline water and absence of alcohol and narcotics, although the absolute amount of uric acid increases. (3.) The same holds good with regard to the relation of uric acid to urea. (4.) It is very probable that in fever, even in absence of respiratory derangement, there is not only an absolutely larger amount of uric acid produced, but also an increased proportion of uric acid relatively to total nitrogen and to urea. (5.) The use of plenty of alkaline water, and the disuse of alcohol in the treatment of gout, are justified by experimental evidence which cannot be denied: these factors seem to be of greater importance than the prohibition of meat.

Action of Related Chemical Compounds on Animals. By W. Gibbs and H. A. Hare. (*Amer. Chem. J.*, 11-435; *J. Chem. Soc.*, March, 1890, pp. 280.) The authors publish the first part of a research, having for its object a systematic study of the relation between the chemical constitution of compounds and their action on the animal organism. Dogs and frogs were used in these experiments, and a description is given of the action of the nitrophenols, the nitranilines, and the amido- and nitro-benzoic acids, when administered by the stomach or hypodermically.

The nitro-phenols cause death by paralyzing the heart, and not by a respiratory action; the nervous system is unaffected by them, except that the vagus nerves are slightly stimulated by the ortho- and meta-compounds, but depressed by the para-compound. The lethal dose per kilo. of body-weight is 0.1 gram. of the ortho-, about 0.1 of the meta-, or 0.01 gram of the para-compound, when injected into the jugular vein. The nitranilines all act by stimulating the peripheral vagi, and so producing a very marked slowing of the pulse. The lethal dose in the case of the ortho-compound is 0-3 grams per kilo.; methemoglobin is produced in the blood, and the sensory side of the spinal cord is slightly affected, but this is probably caused indirectly by the changes in the blood. Given by the stomach it produces curious paroxysms of sneezing. The meta-compound has a very feeble effect on the nerves, and this depends on the development of methemoglobin in the blood, all the symptoms being those of aniline poisoning. The para-compound is the most poisonous, the lethal dose being 0.04 gram. per kilo. of body-weight when injected into the jugular vein. The amido-benzoic acids and the nitro-benzoic acids were found to be without effect on the animal organism.

THE PRESENT STATUS OF SUSPENSION IN THE TREATMENT OF LOCOMOTOR ATAXIA.

In the *Progrès Médical* of April 26, 1890, Dr. Raoult, of Paris, examines the results obtained by different observers, in different countries, who have conscientiously used this mode of treatment for ataxia. It seems that in England and America the results have not been as favorable as those obtained in Germany and France. An American observer explains this by saying that the French people are more impressionable than the Anglo-Saxons, and present symptoms more functional than organic. In all probability said observer has been looking for a cure instead of amelioration.

Among the recent contributions to this subject the majority still favor suspension. Balaban, of Paris, in his Thèse de Paris, reports nine cases of tabes treated in this manner under the direction of Dujardin-Beaumetz. In eight cases the gait was considerably improved, and the incoördination and lightning pains diminished. In one case the vesical troubles disappeared, and in three cases the anesthesia. In but one case were the results unsatisfactory, and treatment was suspended after twenty-five trials.

Dujardin-Beaumetz reports twenty-five cases treated at L'Hôpital Cochin, with good results in the majority of cases. In four patients the gait was much improved, while in six patients no improvement was noticed. In those cases where the improvement was but slight, it occurred before the fifteenth day of treatment. After that time the symptoms remained stationary.

Dr. Ladame treated fifteen cases of locomotor ataxia, twelve males and three females. He reports on eleven cases, four having disappeared. Of eleven cases only two were not benefited by suspension.

Dr. Mouisset treated eight atactics, and in one case only was the method unavailing.

Dr. Thiberhein reports twenty-six cases, nineteen of whom took ten or more treatments. Of these, seventeen have been ameliorated and two not.

Observers in Germany and Russia have likewise met with favorable results in the majority of cases treated a sufficient length of time.

Correspondence.

WASHINGTON, D. C., May 1, 1890.

Editors Buffalo Medical and Surgical Journal:

WILL you kindly allow space in your columns for the following communication?

You were good enough, some months ago, to send me marked copies of your valuable JOURNAL—the number for January, 1890—on pages 382 and 383 of which you comment on the annual announcement of the Medical Department of the University of Vermont containing a circular advertising "Lactated Food" and "Celery Compound." You say: "We suppose this indicates some of the therapeutical measures used in this institution." You further state: "This is the first time, to our knowledge, that the annual announcement of a reputable medical school was ever used as an advertising medium for proprietary medicines;" and, "when medical colleges become the advertising agents of," etc., "they lower the standard of their usefulness and affront the dignity of the profession." In this latter statement I must say I agree with you. However, what I most desire in this note is to convey to you my sympathy for that dreadful lack of knowledge which leads you to suppose that the University of the Green Mountain State is the only transgressor. I have not seen the "Lactated Food" circular to which you refer, but I am informed it was a loose leaf, or sheet, slipped into the college circular, after printing, and not published by the college authorities. But that is not the point; it is undignified either way, and needs reform.

But reform, good Messrs. Editors, like charity, should begin at home. Why do you assail the diminutive "mote" in the eye of your neighbor Vermont, when a huge "beam," more than twenty times as offensive, is flauntingly displayed in your own great "Empire" State of New York?

Herewith I send you the eighth announcement of the "New York Post-Graduate School and Hospital"—sessions of 1889–'90. It contains twenty-two pages of advertisements, not slipped into, but bound with the college circular. Among them you will find: Fehr's "Compound Talcum Baby Powder;" "Imperial Granum;" "Syrupus Roborans;" "Planten's Capsules;" "Exalgine;" "Liquid Albolene;" "Hollow Suppositories," and other proprietary medicines, not to mention "steel pens," "saddle-bags," "photographic instruments," and last, but not least, cigarettes"—"Richmond Straight

Cut" and "High-Grade Cigarettes"—the former being illustrated with the smiling face and broad-brimmed hat of a now familiar figure, puffing smoke; while the "High-Grade" brand is magnificently embellished with the picture of a female modestly pulling up her clothes to a *high grade* above her ankle, in the presence of a male, whose cigarette she seems to be lighting from her own. Can you suppose, Messrs. Editors, that these things "indicate some of the therapeutical measures used in this institution"—the Post-graduate Medical School—in the same way that you supposed the "Lactated Food" and "Celery Compound" circulars indicated the use of these preparations by the University of Vermont?

This is all. I shall be glad to hear or read any future statement you may be disposed to make in reply, now that you have a wider knowledge of facts.

The University of Vermont is an institution with which I have been associated for nearly twenty years. Its methods of teaching, and requirements for graduation, etc., reflect credit upon the profession. It has succeeded in growing into a large school, and has, therefore, invited opposition and, perhaps, some jealousy. I cannot be silent when it has been unjustly assailed. R. S. V. P.

A. F. A. KING, M. D.

Dr. L. S. Pilcher, of Brooklyn, N. Y., recently read a paper on Cranial and Spinal Injuries (*Annals of Surgery*, March, 1890), in which he stated that the results in these cases are calculated to prevent the indulgence of too sanguine expectations in approaching similar cases. Nevertheless, although, in the great majority of cases, either the extent or the seat of the lesion will render all attempts at surgical relief futile, yet in some cases, intracranial conditions susceptible of relief and cure do exist, and in any case in which a reasonable doubt exists, it seemed to him to be justifiable to give the benefit of the doubt to the patient, especially when it is evident that without intervention a fatal termination is certainly imminent.—*College and Clinical Record.*

At a recent meeting of the Board of Health of Philadelphia, Dr. Keyser offered a resolution, which was adopted without debate, that the medical inspector be instructed to inquire what disposition is made of coffins after bodies have been cremated, especially in the event of being used for bodies of persons who have died of contagious diseases. It is said that coffins have been carried off by undertakers to be used a second time.—*Boston Medical and Surgical Journal.*

BUFFALO MEDICAL AND SURGICAL JOURNAL

A MONTHLY REVIEW OF MEDICINE AND SURGERY.

EDITORS

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D.

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

AMERICAN MEDICAL ASSOCIATION—THE NASHVILLE MEETING.

THE forty-first annual meeting of the American Medical Association, held in Nashville, Tenn., May 20, 21, 22, and 23, 1890, from all points of view must be regarded as one of the most successful medical gatherings that has yet been held under the auspices of this organization.

The Association of Medical Editors, which may be regarded as an auxiliary to the main or parent association, convened at nine o'clock, Monday evening, May 19, 1890, under the presidency of Dr. I. N. Love, of St. Louis, who conducted the meeting with his usual ability. After listening to the papers of Drs. F. L. Sim, of Memphis, and T. D. Crothers, of Hartford, and electing officers for the ensuing year, the association adjourned to partake of the annual banquet. The officers chosen were: President, Dr. F. L. Sim, of Memphis; Vice-President, Dr. Frank Woodbury, of Philadelphia; Secretary and Treasurer, Dr. J. C. Culbertson, of Cincinnati.

The Association met in general session at the Vendome Theater, Tuesday, at 11 o'clock A. M., when the President, Dr. E. M. Moore, of Rochester, delivered his annual address in which he dealt largely with the problems of National and State Hygiene. It was an able discourse, as might be expected from so learned an author, and will well repay careful reading by every physician.

At 3 o'clock the several sections convened in their appointed places of meeting, which were all conveniently located and well adapted to their purposes. During the three days following, over two hundred papers were read and discussed—an enormous amount of work to dispose of, when it is remembered that the sections, ten in number, hold their sessions in the afternoons only, the mornings being devoted to the general meetings. At the latter the business and legislative

affairs are disposed of, and the general addresses on the Practice of Medicine, Surgery, and State Medicine delivered.

Dr. W. T. Briggs, of Nashville, was elected president for the ensuing year, and Washington chosen as the place of meeting, the date being the first Tuesday in May, 1891.

The exhibits of instruments, appliances, surgical tables, pharmaceutical preparations, and foods, at Amusement Hall, were elaborate and interesting. These exhibits are far more instructive than one would suppose who had never visited them, and are by no means to be regarded from merely a trade standpoint. The pharmacist and chemist, the instrument maker, and the manufacturers of the various tables and ingenious appliances, all mark the progress making in medicine and surgery quite as plainly as do the scientific papers read at the section meetings. The exhibitors are not to be regarded as mere distributers of samples, but are, for the most part, men of education, and skilful in their several departments. The address of Mr. Smith, on Friday, in presenting the handsome easy chair to Dr. Lindsley, of Nashville, in behalf of the exhibitors, may be cited in support of the foregoing statement; it was eloquent, scholarly, finished and appropriate, and it is difficult to see how it could have been improved upon by any statesman in the land.

The medical colleges, through their representatives, met on Wednesday and effected an organization looking to the advancement of educational standards, but no opinion can now be ventured as to the good that will be accomplished thereby.

Finally, though not of the last importance, we must speak of the social side of the Nashville annual, for no account of this great occasion would be complete that omitted to do justice to this part of the meeting. While in this beautiful city of the mid-south, so noted for its educational institutions, handsome women, and attractive scenery, it was to be expected that much would be done for the entertainment of the guests, no conception could be formed in advance that would approach the realities of what this hospitable people were capable of, or of the extent of their generosity in the direction named. While it is impossible to particularize with the space at our command, we may say that from the moment the visitors arrived on Monday, until the last one departed on Saturday, there was one continual round of social entertainment that was of the most delightful sort. Receptions, excursions, dinners, teas, and visits; rides, drives, and walks were all happily appointed, and reflect the greatest credit upon the citizens of Nashville, who seemed to vie with each other in devoting their time and money to the entertainment of the American Medical Association.

The ladies' reception at the Maxwell House, on Wednesday afternoon, is to be specially mentioned as a novel feature, which brought the visitors and the Nashville ladies to a delightful acquaintanceship that could not have been accomplished in any other way; and to the good taste and judgment of Mrs. S. A. Champion, in carrying out this part of the programme, all praise must be accorded. We are as loth to leave this interesting subject as we were pained to bid adieu to Nashville and its charming people; and we close, by saying, as we began, that the meeting must be pronounced a success, both from a scientific and social standpoint.

To indicate the degree of perfection of the organization on entertainments we subjoin the list of the

LADIES' RECEPTION COMMITTEE.

Mrs. J. B. Lindsley, chairman.

(*a*) *Section on Maxwell House.* Mrs. S. A. Champion, chairman; Mesdames Thos. Plater, W. H. Payne, W. H. Peck, C. A. Miller, Van Kirkman, Leslie Warner, Mat Williams, Percy Warner, J. H. Eakin, R. F. Weakley, W. S. Bransford, J. M. Harding, W. W. Berry; Misses Margerie Spurr, Annie Gray, White May, Dovie Briggs, Henrietta Kendrick, May Belle Keith, Mary Reese, Louise Lindsley, Anna Brennan, Emma Morrow.

(*b.*) *Section on "The Duncan."* Mrs. J. M. Head, chairman. Mesdames M. L. Hicks, H. H. Lurton, Dr. Paul F. Eve, Nathaniel Baxter, Sr., J. F. Wheless, Myron Peck, Dr. J. H. Blanks, Albert D. Marks, Wm. M. Duncan; Misses Mary McGavock, Marshall, Mamie Vaughn, Roberta Jones, Mamie Duncan, Annie D. Lindsley.

(*c.*) *Section on Baxter Café and Nicholson House.* Mrs. M. P. McGuire, chairman. Mesdames Chas. Thurman, Isaac Reese, Jere Baxter, Dr. N. D. Richardson, J. P. W. Brown, Chas. H. Eastman, John Thomas, Jr., John Childress, J. C. Warner; Misses Mamie Rogers, Lillie Morrow, Annie Porterfield.

(*d.*) *Section on other Hotels.* Mrs. W. D. Haggard, chairman. Mesdames Ed. Buford, Dr. Richard Douglas, Dr. Duncan Eve, Mark Cockrill, M. P. House, D. R. Dorris, Robert Riddle; Misses Mattie Nelson, Birdie Brown, Mary Bright, Mattie Spurr.

(*e.*) *Section on Boarding Houses and Homes.* Mrs. M. B. Pilcher, chairman. Mrs. Mary Clare; Misses Gillespie, Gretta Williams, Sallie Foard, Annie M. Callender, Lizzie Atchison, Madora Jones.

REFORM IN ANATOMICAL NOMENCLATURE.

THE following report of the Committee on Anatomical Nomenclature was adopted December 28, 1889, by the Association of American Anatomists without dissent.

The committee recommends:

1. That the adjectives dorsal and ventral be employed in place of *posterior* and *anterior* as commonly used in human anatomy, and in place of *upper* and *lower* as sometimes used in comparative anatomy.

2. That the cornua of the spinal cord, and the spinal nerve roots, be designated as dorsal and ventral rather than as *posterior* and *anterior*.

3. That the costiferous vertebra be called thoracic rather than *dorsal*.

4. That the *hippocampus minor* be called calcar; the *hippocampus major*, hippocampus; the *pons Varolii*, pons; the *insula Reilii*, insula; *pia mater* and *dura mater*, respectively pia and dura."

Signed by all the members.

JOSEPH LEIDY, *Chairman*.
HARRISON ALLEN,
FRANK BAKER,
THOMAS B. STOWELL,
BURT G. WILDER.

Thomas Dwight was added to the committee.

The following is the report of the Committee on Anatomical Nomenclature of the American Association for the Advancement of Science, with special reference to the brain:

During the past year, some of the members of the Committee have given to the subject intrusted to them as much time as their regular duties would permit. They agree upon one point, viz., the advantages, other things being equal, of *mononyms* (single word terms) over *polyonyms* (terms consisting of two or more words). Before making specific recommendations or presenting a final report, the Committee think it advisable that they and other anatomists should have an opportunity of discussing at leisure the simplified nomenclature which they are informed is employed in certain treatises which will be published during the coming Winter. They therefore ask to be continued.

BURT G. WILDER, *Chairman*.
HARRISON ALLEN,
FRANK BAKER,
HENRY F. OSBORN,
T. B. STOWELL,
Committee.

Note by the Chairman—The treatises referred to in the above report are Leidy's Human Anatomy, and the following articles in Wood's Reference Handbook of the Medical Sciences, Vol. viii.: By E. C. Spitzka, Spinal Cord and Histology of the Brain; W. Browning, Vessels of the Brain; S. H. Gage and B. G. Wilder, Anatomical Terminology; B. G. Wilder, Anatomy of the Brain, Malformations of the Brain, and Methods of Dissection, etc.

After careful consideration of what had been written by Barclay, Owen, and Pye-Smith, on the 29th of August, 1880, at the Boston meeting of the American Association for the Advancement of Science, Professor Wilder, of Cornell University, made the first systematic effort in this country to simplify anatomical nomenclature, especially with reference to the brain. This paper was briefly reported in the New York *Medical Record*, September 18, 1880. Since that time he has published numerous papers, bearing more or less directly upon this subject, and this system is embodied in "Anatomical Technology," by Wilder and Gage, and in the article "Gross Anatomy of the Brain," in Vol. viii., of the Reference Handbook of Medical Sciences.

In 1884, at Prof. Wilder's suggestion, committees on nomenclature were appointed by the American Neurological Association, and the American Association for Advancement of Science. It is to be hoped that the former may present a preliminary report at its next meeting, to be held in Philadelphia, June 4-6, 1890. The report of the latter has appeared, and favors the adoption of mononyms, one word terms (see above). They have also asked further time for discussing the simplified nomenclature, and it is to be hoped they will also favor the adoption of the system as proposed by Dr. Wilder in 1880.

The committee of the Association of American Anatomists (as will be seen by referring to their report printed above) recommended the terms "Dorsal" and "Ventral," in place of the less exact terms, upper and lower, or anterior and posterior, and also the employment of several mononyms in place of the polyonyms heretofore in vogue.

It is worthy of note that both the principle of mononyms, and the specific terms adopted by these committees, formed prominent features of Prof. Wilder's original paper in 1880. Since that time he has imbued the necessity of reform into not only his students at Cornell University, but also in the masses of scientific men, eager for the advancement of their science.

Slowly and gradually, as all reforms advance, this one has been steadily gaining ground, and although misinterpreted and attacked, Prof. Wilder has not lost faith, and has preserved his equanimity with surprising calmness (see New York *Medical Record*, October 4, 1886), against erroneous and rather spiteful editorials as have appeared in some of the metropolitan journals.

It is gratifying to see some, who at first have been adverse to the new system, now indorse and use it, and others acting through committees favoring its adoption. Those of us who had the pleasure of listening to Dr. Wilder's address before the Alumni Association of

the Niagara Medical College, can attest with what force and precision parts of the brain were described by means of some of the terms of the proposed nomenclature. The ambiguity and circumlocution of the old terms became patent when contrasted with such terms as meson, cephalic-candad, ental-ectal, dorsal-ventral, peripheral-central, dextral-sinistral, etc. Each of these terms permits of adjective and adverbal terminations, as cephalad, towards the head, etc. The description and location of anatomical tissues and centers is rendered comparatively easy, to say nothing of the accuracy and precision necessary for a perfect comprehension of the subject. We hope that ere long the system may be adopted, not only by the teachers of the various schools, but also by the physician in reporting his cases for the medical journals. In conclusion we reproduce the following paragraph from the article Anatomical Terminology, (Reference Handbook, Vol. viii., p. 522, § 45,) as a compact statement of the reasons for giving his views careful consideration :

The writer asks a careful consideration of his plans for terminological improvement, because they are based upon an unbiased study of nearly all previous publications; because—as he has reason to think—during the last ten years he has given to the subject more time than has been given by any other anatomist, living or dead; because the linguistic principles involved have been approved by philological authorities; because the actual disturbance of the existing order of things is kept at the minimum; and because the practical availability of the terms has been demonstrated with hundreds of students in both a university and a medical school.

As contrasted with the vocabulary in common use, (at least up to 1880,) that which seems to the writer best calculated to facilitate the advancement and dissemination of accurate anatomical knowledge would consist of terms, which are :

Designatory rather than descriptive.	Conservative rather than eradicating.
Impersonal rather than personal (eponymit).	Idionymic rather than homonymic.
Correlate rather than irrelate.	Coördinate rather than incoördinate.
Classical rather than vernacular.	
Dissyllabic or trisyllabic rather than monosyllabic or polysyllabic.	
Mononymic rather than polyonymic.	Monoglot rather than polyglot.
Paronymic rather than heteronymic.	Constant rather than varied.

General Green B. Raum deserves credit for his attempt to place the pension examination service on a systematic basis. A bill recently introduced at his instance provides for the entering wedge of a system of selecting pension surgeons similar to that adopted by army, navy, and marine hospital service.—*Medical Standard, April.*

Personal.

Dr. Wm. D. Granger, for eight years first assistant physician at the State Asylum for the Insane, at Buffalo, N. Y., opens a private institution for the insane at Mt. Vernon, near this city, (N. Y.,) on June 1st. Dr. Granger has created for himself not only a State but a national reputation, through the important part he took in aiding Dr. J. B. Andrews to make the Buffalo asylum the model institution of this country, and by the wide dissemination of his Handbook for Training Nurses upon the Insane, published some years ago by G. P. Putnam's Sons. He has purchased the Masterson estate, midway between Mt. Vernon and Bronxville, consisting of an elegant stone mansion, cottages, and seventeen acres of beautiful grounds upon the high ridge between the two towns. This institution will be the nearest to the city and most convenient of reach among those now in existence.—*Journal Nervous and Mental Disease.*

Dr. F. S. Crego, who visited Europe in January, has returned and resumed the active practice of medicine. He visited the clinics of Vienna, Heidelberg, Paris, Nancy and London during his absence.

Dr. George H. Rohé has removed to No. 18 West Franklin street, between Charles and Cathedral streets, Baltimore, Md. Office hours, 2 to 5 P. M. Dr. Rohé has lately taken unto himself a wife, and also been appointed Health Commissioner of Baltimore, two good reasons for sincere congratulations.

Dr. Daniel Lewis has removed to 249 Madison avenue, near 38th street, New York city. Office hours, 9 to 12 and by appointment.

Dr. W. Scott Renner has removed his office to 361 Pearl street, Buffalo, N. Y. Hours 9 to 1 and 7 to 8.

Dr. T. Haven Ross has removed to 344 Ashland avenue, Buffalo, N. Y.

Society Meetings.

Medical Association of Central New York.—Upon the earnest request of many members the annual meeting of the Medical Association of Central New York is postponed from May 29th to Tuesday, June 10, 1890. The regular day conflicts with the date of the National meetings. Announcement of programme, place of meeting, and important business to be transacted will be issued about June 1st. By order of W. J. Herriman, President; Edw. B. Angell, Secretary.

Book Reviews.

A Text-Book on Diseases of the Eye. By HENRY D. NOYES, A.M., M.D., Professor of Ophthalmology and Otology in Bellevue Hospital Medical College; Executive Surgeon to the N. Y. Eye and Ear Infirmary; recently President of the American Ophthalmological Society, etc., etc. Royal octavo, 733 pages, richly illustrated with chromo-lithographic plates and 226 engravings. Price, bound in extra muslin, $6.00; in sheep, $7.00. New York: William Wood Company.

The appearance of a text-book on ophthalmology by an American author must be hailed with welcome, especially when coming from so high a source as Prof. Noyes. The book is intended to be practical rather than theoretical, and herein Prof. Noyes is but following the tendency of the times. This volume is an outgrowth of the author's treatise on "Diseases of the Eye," published in Wood's Library of Standard Medical Authors. It follows the same general order of arrangement, viz.: the first part devoted to the general anatomy and physiology of the eye, with its functional disorders; the second part treating of inflammation and organic textural changes.

The spirit of the book is clinical, but an adequate preparation for clinical and practical work means a thorough and comprehensive preliminary knowledge. To make the book as practical as possible, mathematical formulæ have been omitted, and herein Prof. Noyes is to be congratulated. We doubt whether in a treatise on ophthalmology intended for students and practitioners, a deep study of obtuse laws of optics and trigonometrical functions is in good taste, certainly not when some of the preparatory courses of its readers are considered.

The pathology and microscopic anatomy of some of the organic lesions have been presented in such a way as to give an intelligent and ample account of these morbid processes. The relations of micro-organisms as exciting causes in the production of diseases of the eye have been fully recognized. No little labor has been spent in setting forth the relations of the eye to the brain and nervous system. Most ophthalmic text-books pass over this chapter with a few desultory remarks, leaving the matter to text-books on neurology, whereas these point to works on ophthalmology for the required information. Prof. Noyes has not shirked his duty in this respect, as both illustrations and descriptions will testify.

The author has not only quoted his own cases and experiences, but has also familiarized himself with the work and experience of others, and given credit wherever and whenever due. The references and bibliography show him to be abreast of his subject at home and abroad.

On the whole, we must say in justice to ourselves, to the author, and to the publisher, that it is the best, neatest and cleanest text-book on ophthalmology that has been our good fortune to examine.

W. C. K.

Proceedings of the American Society of Microscopists. Twelfth Annual Meeting. Held at Buffalo, N. Y., August 20, 21, 22, and 23, 1889. Vol. XI. Pp. 182. Committee on Publication, T. J. Burrill, Geo. E. Fell, C. C. Mellor. Buffalo: Bigelow Printing & Publishing Co. 1889.

The proceedings of the twelfth annual meeting of the American Society of Microscopists, published under the direction of the publication committee, attest to the high standard and excellent work done by this great body of scientific men. The Buffalo meeting was considered one of the most successful—not only socially, and in the number of members admitted, but also in the scientific work of the papers presented. Among the more important papers are those by President W. J. Lewis, George E. Blackham, D. S. Kellicott, S. H. Gage and Susanna Phelps Gage, Thomas Taylor, T. J. Burrill, Marshall D. Ewell, George E. Fell, Chevalier Q. Jackson, John M. Stedman, William A. Rogers, George W. Rafter, Lucien Howe, Martin S. Wiard, W. A. Drescher, and H. N. Lyon.

Some excellent plates and wood cuts accompany the papers of D. S. Kellicott, J. M. Stedman, M. S. Wiard and W. A. E. Drescher, adding to the beauty and merit of the same. The society chronicles the death of two of its members the past year, B. L. Oviatt, and Henry Mills, the latter of Buffalo.

The next meeting will be held under the presidency of Dr. George E. Fell, of Buffalo, at Detroit, Mich., beginning August 12, 1890.

W. C. K.

Practical Electricity in Medicine and Surgery. By G. A. Liebig, Jr., Ph. D., Assistant in Electricity, Johns Hopkins University, etc., and George H. Rohé, M. D., Prof. of Obstetrics and Hygiene, College of Physicians and Surgeons, Baltimore, etc. Profusely illustrated. 8vo, pp. viii, 383. Philadelphia and London: F. A. Davis, publisher. 1890. Price, $2.00.

The authors endeavor to set forth in a concise way the fundamental principles which are involved in the application of electricity to medical and surgical practice. The study of electricity to-day is one of the most important branches of the medical sciences, so widespread and so general has it become in the treatment of disease. It is limited to no special subject as was formerly done, but neurologist, gynecologist, laryngologist, as well as the general practitioner, find it one of the most trusted and reliant therapeutic measures. The authors

seem to have grasped its full importance, and have dealt with the subject in a manner at once scientific and comprehensive.

The volume is divided into three parts. In Part I. are discussed the various forms of electrical and magnetic apparatus of use to the physician in his daily experience with electricity, as well as the different arrangement of cells, the construction and use of galvanometers, and a short account of the electric motor, telephone and phonograph as likely to become aids in the diagnosis and treatment of disease. It is almost impossible to treat of these subjects without going into technicalities and mathematics. The authors have simplified, as far as practicable, and have rendered these chapters concise and yet ample.

In Part II. is explained the action of electric currents upon the various tissues of the body in health, then shown how these effects are modified by disease, and finally indicated the methods by which these modifications are utilized for purposes of diagnosis.

In Part III. are considered the applications of electricity in the treatment of diseases. Particular attention is given to the application of electricity in gynecology, diseases of the male genito-urinary organs, and in diseases of the skin.

The illustrations, many of them original, are nicely executed, and add to the usefulness of the book.

The typographical work is up to the standard of this popular publishing house. W. C. K.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. II. for the year 1889. Standard 8vo, pp. xl.–397. Philadelphia: William J. Dornan, printer. Cloth, $5.00; half-Russia, $6.00.

The second volume of this association's work presents quite as attractive material for examination as did the first, which is paying the book a high compliment.

The following table of contents will furnish the reader with some idea of the value of the work done by the association during its three days' session:

The President's Annual Address, by William Henry Taylor, M. D.; Congenital Sinus of the Urachus, Abdominal Incision. Recovery, with Remarks, by A. Vander Veer, M. D.; A Case of Extra-uterine Pregnancy. Operation, Recovery, by L. S. McMurtry, M. D.; Treatment of the Ruptured Parturient Uterus, with report of two cases, by Charles A. L. Reed, M. D.; two cases of Intra-uterine Amputation of the Forearm, by Joseph Price, M. D.; Rectification of Face Presentations, by Rollin L. Banta, M. D.; Flap-splitting in Perineorrhaphy, with Special Reference to Tait's Operation, by X. O. Werder, M. D.; The Necessity of Recognizing Three Planes in the Obstetric Pelvis, by William Wotkyns Seymour, M. D.; How the Refinements of Abdominal Surgery have Influenced General Surgery, by David Barrow, M. D.;

Some Accidents and Complications Incident and Subsequent to Abdominal and Pelvic Operations, by Joseph Hoffman, M. D.; A Study or the Pathology and Treatment of Intra-pelvic Inflammations, by L. S. McMurtry, M. D.; Vaginal Hysterectomy, by E. E. Montgomery, M. D.; The Dry Extra-peritoneal Treatment of the Stump in Hysterectomy, by Joseph Price, M. D.; Successful Removal of a Fibroma of the Right Ovary during Pregnancy, by J. Henry Carstens, M. D.; Ligatures and Sutures. What Material shall be Used? by Clinton Cushing, M. D.; A Few Considerations on Peritoneal Effusions after Intra-peritoneal Operations, by William H. Meyers, M. D.; Reasons for Drainage in Ovariotomy, by Hampton E. Hill, M. D.; Umbilical Hemorrhage, its Treatment, by Llewellyn Eliot, M. D.; The Management of the Perineum during Labor, by Augustus P. Clarke, M. D.; A Report of Ninety Cases of Rapid Dilation of the Uterine Canal for the Cure of Dysmenorrhea and Sterility, by Franklin Townsend, M. D.; A Case of Metremphysema, by Thomas E. McArdle, M. D.; Some Points in the Diagnosis of Pyosalpinx, by Rufus B. Hall, M. D.; The Forceps as a Means of Rotating the Head in Labor, by Edward J. Ill, M D.; The Need of Specially Trained Men for Abdominal Surgery in Remote Districts, by George R. Dean, M. D.; A Remarkable Case of Nymphomania, and its Cure, by William S. Stewart, M. D.; A Contribution to the History of Ovariotomy on the Insane, by W. P. Manton, M. D.; New Observations Concerning the Functions of the Round Ligaments, by J. H. Kellogg, M. D.; Peculiarities of Abortion from Artificial Causes, by Hamilton A. West, M. D.; The Animal Suture, its Place in Surgery, by Henry O. Marcy, M. D.; Some Neuroses of the Menopause, by William J. Conklin, M. D.; Sapremia and Septicemia during the Puerperal Period, by William S. Gardner, M. D.; The Genu-pectoral or Knee-elbow Position in Obstetrics, by W. H. Wenning, M. D.; Discussion on Craniotomy. I. Is Craniotomy Justifiable on Living Children? by George H. Rohé, M. D.; II. Its Alternatives; Abortion, by William Warren Potter, M. D.; Premature Labor, by Joseph Hoffman, M. D.; Forceps and Version, by James P. Boyd, M. D.; The Cesarean Section, by E. E. Montgomery, M. D.; The Cesarean Section, by A. Vander Veer, M. D.; Laparaelytrotomy, by Charles A. L. Reed, M. D.; The Porro Operation, by Joseph Price, M. D.; III. Conclusions: A Résumé of the Whole Subject, by William H. Wathen, M. D.

The discussions are spirited and elaborate, giving a force and effect to the papers that may well serve as a model for society work.

The book is handsomely printed on tinted paper, and the illustrations, thirty-six in number and two plates, are well executed. Taken all in all it is the most beautifully gotten up volume of society transactions we have yet seen, and it should find a place in the library of every physician who desires to keep pace with such literature.

Handbook of Materia Medica, Pharmacy and Therapeutics.—Including the Physiological Action of Drugs, the special Therapeutics of Disease, Official and Extemporaneous Pharmacy and Minute Directions for Prescription writing. By SAML. O. L. POTTER, M. A., M. D., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco; Late A. A. Surgeon U. S. Army. Second edition, revised and enlarged. Pp. xii.-766. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1890. Price, cloth, $4.00; leather, $5.00.

When the first edition of Dr. Potter's book appeared, now something over three years ago, we spoke in its praise. The profession of

America has now spoken more emphatically than we, by demanding a second edition in so short a time. It has been enlarged and improved, the index alone comprising thirty-seven pages. The titles are conveniently arranged, and the thumb index adds to the comfort of the consultant of its pages.

The subjects treated of in this work are those that every physician must refer to, and it is desirable that the latest and best authority should always be at hand. Whoever purchases Dr. Potter's book will be sure to obtain satisfaction in the direction above named. The type is clear, the paper excellent, and it is one of the prettiest volumes that the famous publishers have lately issued.

BOOKS AND PAMPHLETS RECEIVED.

Cyclopedia of the Diseases of Children, Medical and Surgical. Edited by John M. Keating, M. D. Vol. iii. Illustrated. Philadelphia: J. B. Lippincott Co. 1890.

Electricity in the Diseases of Women. By G. Betton Massey, M. D., Physician to the Gynecological Department of Howard University, Late Electro-therapeutist to the Philadelphia Orthopedic Hospital, etc. Second edition; revised and enlarged. Philadelphia and London: F. A. Davis, Publisher. 1890.

New York State Board of Health. Ninth Annual Report. 1889. Transmitted to the legislature, Feb. 26, 1889. Albany: The Troy Press Co., Printers. 1889. From Hon. Leroy Andrus.

Stories of a Country Doctor. By Willis P. King, M. D., Member of the American Medical Association, Member and Ex-President of the Missouri State Medical Association, Assistant-Chief Surgeon of the Missouri Pacific Railway Co., Formerly Lecturer on Diseases of Women in the Medical Department of the Missouri State University, and Professor of Diseases of Women in the Medical Department, University of Kansas City, etc., etc. With illustrations by T. A. Fitzgerald. Kansas City, Mo.: Hudson-Kimberly Publishing Company. 1890.

Wood's Medical and Surgical Monographs. Vol. vi., No. 2. Contents: Insanity at the Puerperal, Climacteric and Lactational Periods, by W. Bevan Lewis, L. R. C. P. Treatment of Diseases of Women by Massage, by Dr. Robert Ziegenspeck, Munich. The Treatment of Internal Derangements of the Knee-Joint by Operation, by Herbert William Allingham, F. R. C. S. The Idiopathic Enlargement of the Heart, by Dr. Oscar Fraentzel, Berlin. May, 1890. New York: William Wood & Company, 56 and 58 Lafayette place. 1890.

Revue Internationale de Bibliographie Medicale, Pharmaceutique et Vétérinaire. Dirigée par Le Docteur Jules Rouvier. Paris Librairie Medicale Vve. Jacques Lechevalier, 23 Rue Racine.

Transactions of the Washington Obstetrical and Gynecological Society. Vol. ii. Oct. 7, 1887, to May 17, 1889. Press of Stettiner, Lambert & Co., 22, 24, 26 Reade street, New York.

How to Preserve Health. By Louis Barkan, M. D. American News Company. New York. 1890.

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Literary and Other Notes.

The William F. Jenks Memorial Prize.—The second Triennial Prize of four hundred and fifty dollars, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on The Symptomatology and Treatment of the Nervous Disorders Following the Acute Infectious Diseases of Infancy and Childhood.

The conditions annexed by the founder of this prize are, that the "prize or award must always be for some subject connected with Obstetrics, or the Diseases of Women, or the Diseases of Children;" and that "the Trustees, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia."

The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or if in

a foreign language, accompanied by an English translation, should be sent to the College of Physicians of Philadelphia, Pennsylvania, U. S. A., before January 1, 1892, addressed to Louis Starr, M. D., Chairman of the William F. Jenks' Prize Committee.

Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which contains the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

The Medical Profession of the States of New York, Ohio, Illinois, Indiana, and Iowa. The undersigned requests the members of the medical profession in the above-named States to forward, at their earliest convenience, the following points :

Name in full . . . . . School of Graduation and Year . . . . . Post-office address . . . . . State. . . . . .

This will be used in the pages of the *Medical Register, Directory and Intelligencer*, Dr. William B. Atkinson, editor. A copy of the book, printed on good paper, nicely bound, will be forwarded to each physician (whose name appears in its pages) without charge.

The matter in preparation for it is of such value to the profession that everyone who receives a copy will be sure to keep it at hand for constant reference. Its list of National and local medical organizations and post-office addresses of physicians will be complete to date of issue, besides other valuable information. Address, George Keil, publisher, 1214 Filbert street, Philadelphia.

Intubation of the Larynx. The thesis of Dr. Arthur G. Root, class of '90, Albany Medical College, upon Intubation of the Larynx, received the highest prize as an Inaugural Thesis, and appears in the *Medical Bulletin* for May. It gives a complete *résumé* of the history of the operation and the improvements introduced by Dr. O'Dwyer, of New York, upon the plan of Bouchut. The instruments, as well as the details of the operation, are carefully described, with explicit directions for managing the case before, during, and after the operation. The difficulties of the method disappear upon gaining the requisite manual dexterity, and every practical physician should be able to

recognize the indications for intubation and be prepared to perform this little operation in order to save children from suffocation. It is no longer an experiment, but is used by the leading men in the profession, and has been performed nearly 3,000 times in this country. The notes of a number of clinical cases accompany this very interesting and timely article.

An Epitome of Examination of Recruits. By Charles R. Greenleaf, Major and Surgeon, U. S. A. This epitome has received the approval of the Secretary of War, and is the official standard for the physical examination of recruits for the U. S. Army, and for admission to the Military Academy at West Point, and to the Medical Corps, U. S. A.

The following extract from a note in the official register of the U. S. Military Academy, West Point, is equally applicable to candidates for admission to the Medical Corps, U. S. Army.

> It is suggested to all candidates for admission to the Military Academy that, before leaving their place of residence for West Point, they should cause themselves to be thoroughly examined by a competent physician, and by a teacher or instructor in good standing. By such an examination any serious physical disqualification or deficiency in mental preparation would be revealed and the candidate probably spared the expense and trouble of a useless journey and the mortification of rejection.

Price: 75 cents, postage prepaid. For sale by Wm. Ballantyne & Sons, 428 Seventh street, N. W., Washington, D. C.

Our esteemed contemporary, the Maryland *Medical Journal*, begins its twenty-third volume with improvements and changes which add much to its appearance and usefulness. Among these are a new cover, colored blue granite, a table of contents on the first page which can be bound in with the reading matter, and new, clean type. The *Journal* anticipates publishing during the summer months a series of short practical articles along with the usual original contributions. Special subjects will be treated by specialists, and regular letters from London and Paris, with occasional ones from other medical centers, are among the promised features of the future. We wish the *Journal* hearty success for the progressive spirit which it manifests in trying to please its patrons and elevate medical journalism.

Dr. J. D. Jackson, in the December number of the Omaha *Clinic*, gives his experience in the treatment of diphtheria by the iodide of sodium. He has treated fourteen cases, with one death. These

cases were of the worst kind, and after giving the iodide of sodium for thirty-six hours the membranes disappeared from the throat and no bad symptoms followed. The iodide of sodium was given in 8–10 grain doses every hour for six hours, then every two or three hours. The author has never discovered any bad effects from its use.

Any one interested in the sick benefit, funeral-aid, and death beneficiary associations of the United States can help make the statistics of their organizations for the forthcoming census more complete and disseminate the knowledge of the good work they are doing by sending the names of such societies as they may know of, and the addresses of their principal officers, to Mr. Charles A. Jenney, special agent of the eleventh census, 58 William street, New York City.

The editorial article of the May issue of *The Dietetic Gazette* was prepared by J. Lewis Smith, M. D., Clinical Professor of Diseases of Children, in Bellevue Hospital Medical College. With the June number will begin an extended article on The Care and Feeding of Infants, with remarks on the Great Mortality of Infants in the Summer Months, and mode of preventing it.

Dr. Wm. T. Belfield, 612 Opera House building, Chicago, Ill., U. S. A., respectfully solicits information concerning unpublished cases of operations upon the prostate, especially for the relief of the so-called hypertrophy of the organ.

A Check to Christian Science.—Two "Christian Scientists" of Jamestown, N. Y., treated a patient who was suffering from cancer. She died, and a coroner's jury rendered the following verdict: "Mrs. Barrows came to her death from cancer of the breast on the 8th of May. We believe that contributory to this death was the culpable negligence of Mrs. M. J. Smith and Mrs. E. G. Lovejoy, who were advised of the fatal nature of the malady with which deceased was suffering, and failed to resort to or advise treatment by any of the methods known to medical science. We further believe that W. A. Barrows was also negligent of his duty in not securing medical treatment for his wife when there was reason for believing that she was in need of such treatment."—*Medical Record, May 31, 1890.*

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Original Communications.

"SHE THOUGHT IT WAS HER CHANGE OF LIFE."

REPORTING CASES OF UTERINE POLYPI, UTERINE CANCER, INVERSION OF THE UTERUS, AND SUB-PERITONEAL FIBROID.

By A. VANDER VEER, M. D., Albany, N. Y.

Professor of Clinical, Didactic, and Abdominal Surgery in Albany Medical College; Fellow of the American Association of Obstetricians and Gynecologists, etc.

The object of this paper is to concentrate upon certain cases that occur in our consultation practice, and in the practice of the overworked general practitioner, a closer and more positive examination for the purpose of a correct diagnosis. I will proceed at once to the report of a case that will help to illustrate what I have in mind:

Miss M., aged 47, a well-to-do maiden lady, residing in a small country town, had been in good health, regular in her menstruation up to the age of 44, when she began to flow more excessively at her menstrual periods, and soon thereafter developed a condition of both menorrhagia and metrorrhagia After this condition had lasted for a year, and when she was quite anemic, somewhat exhausted, and losing in flesh, she consulted her family physician, Dr. B., who treated her for some time with tonics, rest, and diet, with some little benefit, but not much improvement as to the excessive flowing. He suggested making a careful examination as to her condition, but this she positively refused to have done, saying that "she believed it to be only her change of life." He treated her for another year, at the end of which time she was confined to her bed, and yet refused to have any local treatment. When she had suffered for nearly three years, and in a condition in which there was much edema of the extremities, her lips colorless, and a profound state of anemia present, at the earnest solicitation of the members of her family she finally yielded, and the doctor was permitted to make an examination which confirmed his

previous suspicion of a uterine fibroid. It presented in the form of a simple polypus projecting from the external os. Her condition was made known to her, and an immediate operation urged. I was sent for on October 10, 1887, and found her in such an exceedingly feeble condition that I really feared she might die from the additional slight shock of the operation. She, however, was very willing to have done what seemed to be best, was now entirely passive, knowing that she could live only a short time if not helped in some way. I found a large polypus filling the cavity of the vagina, and attached by a moderate-sized pedicle to the internal os. Around it I was able to pass the chain of the écraseur, and to remove it without any great trouble, not giving the patient an anesthetic, as I feared she would be unable to endure it. The cavity of the uterus was curetted thoroughly, washed out with a weak solution of bichloride, and packed with iodoform-gauze. This was removed at the end of forty-eight hours, and afterward vaginal douches made use of, containing boracic acid in solution. This patient ultimately made a complete recovery, although her convalescence was somewhat slow in consequence of her exceedingly weak and exhausted condition.

I present this as a case familiar to many of us, illustrating a class of cases where procrastination on the part of the practitioner, with absolute indifference and stubborness on the part of the patient, often costs the latter her life. Women seem to have in their mind the idea that they must expect all sorts of conditions to present at the time of the menopause, and are over-negligent, too frequently, in having their cases properly looked into.

Belonging to another class of cases, which are far more sad, is the following:

Mrs. B., aged 33, married, mother of three children, has always been in good health, family history good, youngest child three years of age, which she nursed and weaned at the age of fourteen months; menstruated regularly after that until six months previous to her admission into the Albany Hospital, September, 1886. During that time, her flowing had continued almost constantly; she suffered little pain, but was much weakened; had emaciated somewhat, yet continued attending to her household duties, refusing all local treatment. Her family physician finally told her that he would have nothing more to do with her case, and that she must go to the hospital, where she came under my care. On making an examination, I found an epithelioma that embraced the entire cervix, extending to the lateral walls of the vagina, to the under surface of the neck of the bladder, and extending up along the lower portion of the urethra. It was abso-

lutely impossible to do anything for her in the way of treatment or operation, and when she was informed of her true condition the sadness of the scene is but too well known to many of us.

This illustrates a class of cases by far too numerous, as they present in hospital practice, and yet, notwithstanding the time of life at which this patient complained, she, too, insisted that "she supposed it was her change of life, and that she would soon be all right."

Belonging to still another class of cases are some such remarkable ones as I here report, where, having passed the menopause in a normal manner, the patient afterward presents a condition of flowing and exhaustion, but still entertains the idea that it is simply a return of the menstrual flow, and which indicates another phase or condition of change. The following cases illustrate this somewhat:

Mrs. G., aged 65, married, native of Canada, mother of seven children, a strong and healthy woman all her life, passed her menopause, without any unusual symptoms, at the age of 49. At the end of three years, during which time she had been in good health, she began, as she supposed, her menstruation again. She did not pay very much attention to it at first; it came on at irregular intervals and continued so, at times flowing very severely. During March and April, 1889, she visited Chicago, when, flowing very severely, and being under the care of a physician of the family where she was stopping, after examination, she was told by him that she had a uterine polypus, and that he would operate upon her by dilating the womb and removing it. She did not like to be operated upon away from home, was fearful of the effect of an anesthetic, and returned to her family. Her flowing continued at intervals, with more than usual severity, accompanied with very much pain at times. She described her pain as being of an expulsive character, not unlike that of child-bearing, as she stated. The pain during July and August was unusually severe, and she realized that something was projecting from the vaginal orifice. About August 15, 1889, this became very prominent and somewhat offensive. She had been treated by her local physician, who failed to make any diagnosis of the case. On August 23d, Dr. Turner, of Crown Point, N. Y., was called to see her, and was somewhat startled, on entering the room, to notice the very marked odor of gangrene that presented. On examination, he found a mass protruding from the vulva, the exact character of which he was unable to diagnosticate. I was telegraphed for, but did not see her until August 26, 1889. I then found the mass protruding, as seen in the accompanying specimen. After a thorough and careful examination, I reached the conclusion that she had been suffering from uterine polypus, which had

gradually extruded itself from the cavity, bringing down the fundus of the uterus, and causing inversion of the same. I could feel the lips of the external os well up in the vagina. Taking all things into consideration,—her age, and the nasty gangrenous condition of the presenting mass,—I concluded that it was not wise to dissect off the polypus, and re-invert or return the uterus, but to throw around that portion of the fundus that could be easily reached the chain of the écraseur, and remove the mass in that manner. She bore the operation without taking an anesthetic; the hemorrhage was not at all copious; the parts were thoroughly douched with a bichloride solution, and the cavity of the vagina packed with strips of iodoform-gauze. These were removed at the end of the second day, and afterward the vaginal douche of boracic acid solution was continued daily. The specimen, as you will observe, contains the right horn of the uterus and Fallopian tube, the écraseur having reached well above the sloughing mass. She made a good recovery, and is now in excellent health.

The next is a case quite as remarkable in many respects:

Mrs. B., aged 72, married, mother of three children, her husband a physician, but who had been in a very sad condition of nervous prostration for a period of ten or fifteen years. Mrs. B. had always enjoyed good health, but at the time of her menopause flowed very severely and irregularly. She supposed that she had ceased to flow at the age of 53, and was in fair health for a few years; but, feeling some distress later on, consulted the late Dr. Goldsmith, of Rutland, Vt., who told her that "she had falling of the womb," and fitted her with a glass pessary, which she wore without removing for fifteen years. She could then retain it no longer, and suffered much for the following year. Finally, she consulted another physician, and an attempt was made to have her wear, first a Babcock external supporter with stem pessary, and, later, a MacIntosh, all of which were utterly useless. She suffered a right hemiplegia two years ago, when seventy, from which she made a good recovery. Six months ago she noticed, as she supposed, an entire prolapse of the uterus, which she could press back with much difficulty, and which she continued to do until about two months ago, when she failed to return it. It now remained out, she was confined to her bed, gradually growing worse, but her husband not in a condition of mind to recognize the serious state of her health. Her son, a very competent physician, she did not consult, although he saw her daily, until about January 28, 1890, when, noticing her condition, the odor of the room, etc., he made careful inquiry of his sister, and then, for the first time, learned the serious condition of his

mother. He immediately sent for one of his neighboring physicians, who made an examination, but was unable to state positively what he believed to be the real trouble. February 1, 1890, the doctor called at my office desiring me to see his mother at once. I did so the following day and found a sloughing fibroid protruding from the vulva, presenting the most offensive odor possible. The room had been kept thoroughly ventilated, but the odor was almost unbearable, and the patient seemed much distressed and in a very anxious condition of mind. She stated that she supposed for a long time that her flow had returned, and that she did not think there could be anything seriously wrong until the mass protruded from the vulva. The fibroid had its attachment to the anterior wall of the uterus, and, very curiously rested, between the cervix and posterior wall of the bladder. By passing the catheter into the latter viscus I obtained a very correct idea of the surroundings and concluded to remove it with the chain ecraseur, which I did with little trouble. After removal, the uterus returned to its position. She made an uninterrupted recovery, and is again able to care for her invalid husband.

The point that I wish to present is this: that these cases are to be found all over the country, and that in some way and in some manner we should indicate to our patients the importance of their yielding to a more prompt examination, when such histories present as are here given. Our young women should be taught in our schools, academies and colleges, more on the subject of menstruation. They should learn more about their reproductive organs from chaste, moral, and intelligent teachers. Mothers should know more of the functions of their own individual organs, and learn to teach their daughters.

Finally, the profession should exercise more care in impressing upon young wives and mothers the knowledge that in so many cases they so sadly need, and not assume the care of patients who are so unwilling to have the necessary examination made.

28 Eagle Street.

Philadelphia is said to contain about one million people more comfortably cared for than the people of any other city. Yet it is also said that two hundred and fourteen thousand of these receive pauper medical services. This is exclusive of private dispensaries, or the multitude treated by doctors free in their private practice. All this is due to the fact that doctors have taught the people that they desire to work for nothing.—*American Lancet.*

DEATH: ITS MODES, SIGNS, AND PREMONITIONS.

By F. BRADNACK, M. D.

(*Concluded from June number.*)

PREMONITIONS.

With some persons the first symptom of approaching death is the strong presentiment that they are about to die. Ozanam, the mathematician, while in apparent health rejected pupils, from the feeling that he was on the eve of death. Soon after he expired of an apoplexy. Flechier, the divine, had a dream which shadowed out his impending dissolution, and believing it to be a merciful warning from heaven, he sent for a sculptor and ordered his tomb. "Begin your work forthwith," he said; "there is no time to lose." His speedy decease proved that his premonitions were not unfounded. Mozart wrote his immortal *Requiem* under the conviction that it would be for himself. When life was flitting fast, he called for the score, and musing over it, said: "Did I not tell you truly that it was for myself that I composed this death-chant?" Another great artist, in a different department, having a premonition that his possibility of work was near its end, chose a subject emblematical of the coming event. His friends inquired the nature of his next design, and Hogarth replied, *The End of All Things*. "In that case," rejoined one of the number, "there will be an end of the painter." To this jesting rejoinder Hogarth replied, "There will, and therefore the sooner my work is done the better." He began next day, labored at the picture with unusual assiduity, and when he had given it the last touch, seized his palette, broke it in pieces, and said, "I have finished." The print was published in March, under the title of "Finis;" and in October Hogarth was dead.

In explanation of these and similar premonitions, John Hunter said: "We sometimes feel within ourselves that we shall not live, for the living powers become weak, and the nerves communicate the intelligence to the brain." His (Hunter's) own death seemed to be a confirmation of this dictum. He intimated, on leaving home, that if a discussion (which awaited him at the hospital) took an angry turn, it would prove his death. A colleague gave him the lie. The coarse word verified the prophecy, and he expired almost immediately in an adjoining room.

On the approach of death many noticeable traits occur. Some, as the last hour draws nigh, toss the clothes from the chest. Very often have I observed this as a premonitory mortal sign; and so, I presume, have most physicians. The attendants, with a blameworthy assiduity,

are usually indefatigable in replacing these clothes, doubtless to the distress of the patient; for they are as often thrust back as replaced. There must be some oppression in the covering, or it would not be so persistently thrown off; though, probably, the efforts are instinctive rather than conscious. Another frequent premonitory sign is *picking at the bedclothes*, or at some imaginary object, the latter constituting, of course, an optical illusion. Falstaff fumbled with the bedclothes, we are told by gossiping Dame Quickly. *Muscæ volitantes* appear frequently to trouble the vision of the dying. The ears, too, are often assailed by imaginary voices, which are inaudible to the bystanders, — this, however, is altogether a different thing from saying that they are non-existent voices. Of course, the sceptic and the atheist will put them down as "delusions," and "imaginations," that cheap refuge of those who deny everything unverifiable by the five senses. Often when the sensibility to outward impressions is lost, and the mind is semi-delirious, the dying dream of their habitual occupations, or revert to scenes in their past lives. Napoleon fought again some battle, and his last words, *tête d'armée*, were characteristic. The celebrated Dr. Armstrong departed delivering medical precepts. Lord Tenterden, who passed from the judicial bench straight to his death-bed, fancied himself still presiding at a trial; and died exclaiming: "Gentlemen of the jury, you will now consider of your verdict." A great French jurist, Malherbe, whose grammatical pedantry haunted him through life, split, as one might say, philological hairs in his last gasp. When near his end, he rallied his last iota of strength to correct a bystander for an inelegance of diction. Being rebuked by his confessor for this levity, he declared that he could not help it; for, he felt bound *défendre jusqu' á la mort la pureté de la langue Française.*

Augustus Cesar, when about to expire, after sending for a mirror and arranging his hair, asked jestingly whether he was not a good comedian. Indeed the different manners in which different persons approach death are both curious and interesting. Madame de Pompadour met it apparently with ostentatious indifference. She put on a silk dress, painted her face (like Pope's *Narcissa*), had her hair coiffed; and, as her confessor was about to leave, stopped him exclaiming: *Attendez un instant, M. le Curè; nous nous en irons ensemble!* Nothing can much surpass this, unless it be the cynicism of her royal lover (now grown cold), who on seeing her funeral procession, coolly remarked: *Madame la Marquise aura aujourd'hui un maurais temps pour son voyage.* Very different from the last words of the brilliant Frenchwoman were (if tradition be correct) those of the English queen, Elizabeth: "All my possessions for a moment of time!"

Wit often flashes, meteor-like, in the closing moments. A Frenchman, in his last illness, being wearied by the importunities of a priest, silenced him with the promise: *Vous serez payè, mais laissez-moi en repose.* Charles Lamb said he hoped that his own last breath would be inhaled through a pipe, and exhaled in a pun. The "ruling passion strong in death" is well illustrated in the last words of Napoleon (*tetè d'armée*); of Haller (*the artery ceases to beat*), and of Haydn (*God preserve the Emperor*), doubtless thinking of his own sublime hymn to those words, which afterward became the national hymn of Austria. Gassendi, who was more philosophical than religious, exclaimed when near his end, "I know neither who placed me in the world, nor why I was placed in it, nor why I am taken from it." (Possibly, by this time, he has found out.) Very different were the last words of the erudite, the philosophic, and the truly religious Swedenborg. Having inquired of a female attendant what hour it was, he calmly rejoined: "It is well; I thank you; God bless you," and expired in the same sure and certain hope of immortality in which he had lived and labored for more than eighty years. Rameau, the French composer, whose well-trained ear was extremely sensitive to inharmonious sounds, was, on his death-bed, visited by a priest who chanted, all out of tune, the mass in the dying man's ears. Rameau roused up and said: "*Que diable ferez-vous me chanter la? Vous avez la voix fausse!*" Lord Palmerston, in his last illness, when the physician felt called on to mention the possibility of death, replied: "Die! my dear doctor, that's the last thing I shall do."

Mozart (as aforesaid) had a very distinct premonition of his death. On the night of 5th December, 1791, when his wife's sister arrived, he said to her: "O, my dear Sophie, it is well that you are come; you must stay to-night, and you must see me die. I have the taste of death on my tongue; I smell the grave."

Curious forebodings and foreshadowings of impending death are sometimes experienced. For instance, the learned Conrad Gesner one night dreamt that he was bitten on the left side by a venomous serpent. In a short time a severe carbuncle appeared on the identical spot, and death ensued in five days.

In many instances the mind is capable of pursuing a beaten track without attending to its own operations, and the least impulse will set it going when all its other powers have fled. For instance, the mathematician, DeLagny, was asked the square of twelve when he was unable to recognize the friends around his bed, and mechanically answered, "One hundred and forty-four." The idea of Dr. Adam that it was growing dark, evidently arose from the fading away of the

power of sight, as the darkness of death came down upon him. Doubtless Goethe experienced the same increasing obscuration, for his last words were, "Let the light enter!"

Fatal maladies appear sometimes to make a sudden stop; the patient seems as if about to recover, and the friends who considered him moribund, rejoice that he is once more himself. But experienced physicians know that this is the "lightening before death," and know also that it is a fallacy of appearance. The medical attendant of Charleval, a French poet, called out exultingly to a brother of the faculty, who entered the room, "Come and see; the fever is going!" After a moment's examination the other, more experienced, replied, "No, it is the patient."

Of the many roads which lead to death some are easier to travel than others; and if a choice could be had, doubtless there would be much difference of opinion as to which was the easier. Both Cesar and Pliny desired an instantaneous death, and Augustus had a similar wish. Montaigne also held to Cesar's view, and, to use his own quaint metaphor, thought the pill was swallowed best without chewing. During the plague of Syracuse many of the Romans attacked the posts of the enemy in order that they might die by the sword rather than by the pestilence. Gustavus Adolphus used to say that no man was happier than he who died in the exercise of his vocation. He himself died on the battlefield of Lutzen. The gallant Nelson also wished the roar of cannon to sound his parting knell. He, too, had his desire. When Cavendish, the great chemist, perceived that his end drew near he ordered his attendant to retire and not to return until a certain hour. The servant came back to find his master dead.

Premonitions are of many kinds, and are manifested in various ways. Dr. Fidge, a physician of the old school (who, in early days, had accompanied William IV. when he was a midshipman, as medical attendant,) possessed a favorite boat. On his retirement from Portsmouth dockyard, where he held an appointment, he had the boat converted into a coffin. This coffin he kept under his bed for many years. The circumstances of his death were somewhat remarkable. He had, with his solicitor's aid, after a paroxysm of pain, just added a codicil to his will. The lawyer then asking him how he felt, he replied, "As easy as an old shoe;" and looking toward the nurse in attendance said: "Just pull my legs straight and place me as a dead man, it will save you trouble shortly,"—words which he had scarcely uttered before he calmly died.

Again, some premonitions appear to take the form of coincidences,

and appear quite inexplicable. For instance, Shilling records that a young man in Padua dreamt one night that he was bitten by one of the marble lions which stand before the church of St. Justina. Passing by the place on the following day with some companions, he recalled the dream, and, putting his hand into the mouth of one of the lions, he said, defiantly, "Look at the fierce lion that bit me last night!" But, at the same moment he uttered a piercing cry, and drew back his hand in great terror. A *scorpion*, hid in the lion's mouth, had stung him, and the poor youth died of the venom.

That profound thinker, Kant, admitted the probability that ere long the process will be discovered by which the human soul, even in this life, is closely connected with the immaterial inmates of the world of spirits. Religion had already asserted that it was so connected. Lord Byron, who was sceptical enough in many respects, nevertheless says, "I am a great believer in presentiments. Socrates's demon was no fiction. Monk Lewis had his monitor, and Bonaparte many warnings," to which admission might be added the old German saw, which says:

> "Who neither believes in heaven nor hell
> The devil heartily wishes well."

I am disposed, from facts which have come to my knowledge, to regard the howling of a dog as sometimes a premonition of death to some member of the family. Both in England and Germany dogs are reported in innumerable instances to have set up a most painful howling before the approaching death of inmates of a house where they were kept; and they are thought to see supernatural beings, when they are seen to cower down of a sudden and to press close to the feet of their masters, trembling and looking up piteously, as if for help. Popular belief then says: "All is not right with the dog," or "he sees more than men can see." Samuel Wesley tells us how a dog, specially brought up for the purpose of frightening away the evil-disposed men (who were at first suspected of causing the nightly disturbances at the parsonage), barked but once the first night, and after that exhibited, on the occurrence of those noises, quite as much terror as the children.

In some cases premonitions occur but a short time prior to dissolution. The King, George IV., was, by his physicians, entertained with false hopes of recovery in his last illness. "Wally," said the King, "what is this? *This is death*, my boy. They have deceived me." These words, which were his last, were addressed to his page, Sir Waltham Waller, who was assisting the King to a seat when the final qualm came.

Lord Thurlow received a sudden premonition, and his last words were, to say the least, singular. After having lain quietly for some time, he suddenly raised himself in bed, and exclaimed: "I'm shot if I don't believe I'm dying!" And his surmise was correct. He was.

It is well known that often dying persons not only hear voices which are inaudible to their friends and attendants, but also see, or appear to see, persons or forms which are invisible to others. I have myself been a witness to this experience on the part of moribund patients. Infidels, atheists, and sceptics, who are filled with doubts, sneers, floutings, and Abderian laughter, (to whom might often be applied the words of Plautus: *stulti stolidi fatui fungi bardi blenni buccones*,) these men put all such death-bed phenomena down to what they call "delusion and imagination," those easy refuges of such as can neither deny facts nor explain them. Charles Lamb's parody on Shakspere's couplet not only serves them right but fits them well:

> "Full fathom five the *atheist* lies,
> Of his bones are hell-dice made."

There is certainly nothing about them that savors of heaven. For my own part I do not hesitate to aver that I am not of their way of thinking. To my mind it would be as impossible, as it would be unphilosophical, to suppose that the innumerable instances on record of such sounds and sights are mere imaginings or delusions, for many of them have been experienced by persons in no way given to imagination or to being imposed on by delusions. They have even been experienced by young children. In short, there appears to be no doubt that, as the bodily senses grow dull toward death, so do the faculties of the spirit — the real man — increase in activity and perceptive power. In a word, the spiritual eyes and ears are opened to see and to hear what, at other times, is invisible and inaudible. Again, Shakspere, who saw clearly what other men see dimly, confirms this theory, where he says, speaking of actual although inaudible celestial music, — "For, while this muddy vesture of decay doth closely hem us in, we cannot hear it," — the "muddy vesture" of course referring to the corporeal body. Doubtless all this can be denied or disputed, but, for the matter of that, so can almost anything else. To deny a phenomenon simply because *we* cannot explain it is as contrary to philosophy as it is to common sense; for it must needs be that in an infinite universe there are many things incomprehensible to merely finite intelligences. To deny facts simply because *we* cannot explain them, would be as senseless as to deny the

existence of the Atlantic ocean because we cannot bale it out with a pint cup.

Said that great and good man, John Wesley, when speaking of a reported case of supernatural visitation, which had been narrated to him: "It is true there are several of the circumstances I do not comprehend, but this is with me a very slender objection, for *what is it which I do comprehend*, even of the things which I see daily? Truly not the smallest grain of sand or spire of grass. I know not how one grows or how the particles of the other adhere together. What pretense have I, then, to deny well-attested facts because I cannot comprehend them?" Surely it would serve a useful purpose if these wise words could be written in gold and set up for the benefit of the various infidels, deists, sceptics, atheists and agnostics, which now-a-days crop up as plentiful as blackberries, and flourish like weeds growing by a cesspool. Possibly, also, the word sof a greater man than even John Wesley might sometimes apply to some of them, puffed up with vanity and self-conceit as many of them are, "Seeking to be wise they became fools." But, lest the erudite and pious Wesley should not be scientific enough for these atheistical and agnostical gentry, who usually affect a lofty, ultra-scientific scorn of any opinions not emanating from their own clique, let them perpend the words of one of the greatest scientists, as well as philosophers, the famous Laplace: "We are so far from knowing," says this great man, "all the agents of nature and their various modes of action, that it would not be philosophical to deny any phenomena merely because in the actual state of our knowledge they are inexplicable. This only we ought to do,—in proportion to the difficulty there seems to be in admitting them, should be the scrupulous attention we bestow on their examination."

Let the infidels, atheists, agnostics, sceptics, positivists (*et id malum genus omne*) memorize this dictum. To digest it cannot fail to benefit them.

The Roman poets believed that every man possessed a three-fold soul, which, after the dissolution of the body, resolved itself into (1) the *manes*, (2) the *anima* or *spiritus*, (3) the *umbra*, to each of which a different place was assigned. The *manes* descended into the infernal regions, to inhabit either Tartarus or Elysium; the *anima* ascended to the skies, while the *umbra* hovered around the tomb, as if unwilling to quit its connection with the body, of which it was the wraith or shadow. The "spirit" is the *nous* of Plato; the immortal, immaterial, and purely divine principle in man, the crown of the human triad, referred to as the "body, soul and spirit" by St. Paul. The "soul" is the *psyche* or the *nepheth* of the Bible; the vital principle, or the

breath of life, which every animal shares with man. Prof. Schele de Vere truly says: "There prevails among all men, at all ages, a carefully repressed but almost irresistible belief in supernatural occurrences, in the close proximity of the spirit world. This belief is neither to be treated with ridicule, nor to be objected to as unchristian, since it is an abiding witness that men entertain an ineradicable conviction of the immortality of the soul."

Who, we may ask, can dispute this? It is as much a hard scientific fact as that two parts of hydrogen and one part of oxygen go to the production of a molecule of water. In this connection a recent able writer (F. C. Cobbe) says: "I have heard numberless instances of dying persons showing unmistakably by their gestures, and sometimes by their words, that they see in the moment of dissolution what could not be seen by those around them." This writer then gives the following case, witnessed by herself. The sick man was the relator's own brother. "He was," says she, "an elderly man, dying of a painful disease, but one which never for a moment obscured his faculties. Although it was known to be incurable, he had been told that he might live some months, when, somewhat suddenly, the summons came on a dark January morning. It had been seen in the course of the night that he had been sinking, but for some time he had been perfectly motionless, apparently in a state of stupor, his eyes closed and his breathing scarcely perceptible. As the tardy dawn of the Winter morning revealed the rigid features of the countenance, from which life and intelligence seemed to have quite departed, those who watched him felt uncertain whether he still lived; but suddenly, while they bent over him to ascertain the truth, he opened his eyes wide and gazed eagerly, with such an unmistakable expression of wonder and joy that a thrill of awe passed through all who witnessed it. His whole face grew bright with a strange gladness, while the eloquent eyes seemed literally to shine, as if reflecting some light on which they gazed. He remained in this attitude of delightful surprise for some minutes; then in a moment the eyelids fell, his head drooped forward, and, with one long breath, the spirit departed."

It would appear, in some rare instances, that after the immortal spirit has been loosed from its "muddy vesture of decay," it has returned to reanimate it for a brief moment, before taking its final departure. There is an account of an old man who had left some generous gifts to his orphaned nieces in his will, which document, just before his death, he had confided to his rich son, with injunctions to carry out his wishes. But he had not been dead more than a few hours, before the son, finding himself alone with the corpse, tore the

will and burned it. The sight of this impious deed apparently recalled the hovering spirit (or at least the *umbra* of the Romans), and the old man, rising from his couch of death, uttered a fierce malediction on the horror-stricken wretch, and then fell back again and yielded up his spirit, this time forever.

Though medicine has many resources which those unacquainted with its powers are incapable of estimating, still its functions are limited, and, although the wise physician can often cure the sick he never pretends to cure the dead; for he knows that he possesses none of that *promethean unguent*, such as Medea gave to Jason, whereby the recipient was rendered invulnerable to the darts of death. We possess as yet no *elixir vitæ*. Alas, no! Death is the great *crux medicorum;* for, as the proverb truly says: To prescribe physic for the dead and advice for the old is the same thing. In strict truth, the physician who lays the flattering unction to his soul that *he* cures sick people is most egregiously mistaken, for, certes, it is God who cures the patient, while the doctor puts the fee in his pocket. We give ourselves great airs of wisdom with our diagnoses, and prognoses, and scientific therapeutics, but did not the *vis medicatrix naturæ* come to our assistance, the wisest physician would, so far as the patient is concerned, be but little better than the most illiterate quack.

In conclusion, when we finally reach (as we each and all shall reach) that *ripa irremeabilis undæ*, of which Virgil spake, both medicine and physicians will be in vain. To the same oblivion we are all hastening, the great and the small, the rich and the poor, the wise and the foolish—to the same last resting-place. To such as do not relish the thought of a bed so narrow, and a lodging so humble, the German adage may possibly afford some slight measure of consolation. *He*, says this medieval saw, *who lies in the grave is well lodged.* At least his body will be well lodged. How his immortal soul may fare is another matter which lies outside our present province.

"Here lies one whose name is writ in water," wrote Keats for his own epitaph, and surely it might well serve for the universal epitaph of all mankind. Many people complain of the uncertainties of life, and, of a truth the life of man is a winter's day and a winter's way. But, if life may fairly be reproached with uncertainty, death cannot be so reproached; for, of all human events, it is the most certain. Once launched upon its lethean stream, the king and the slave are fairly embarked on the same voyage to oblivion. Some will arrive there sooner than others, but for each one it is only a question of time. "*Veneatapadino Ragium!* how few," says Jeremy Taylor, "ever heard of him; and yet he was the great King of Narsinga!"

—and, truly, the preacher might have added that, for all we know to the contrary, his royal ashes may to-day be stopping a leak in a beer barrel. "Now, get you to my lady's chamber, and tell her let her paint an inch thick, to this favor she must come; make her laugh at that."

Yet, due to a kind Providence, to many sufferers death comes as by no means an unwelcome messenger, for "Death is the liberator of him whom freedom cannot release; the physician of him whom medicine cannot cure, and the comforter of him whom time cannot console."

The last hour will surely come. *God's club*, says the Russian proverb, *makes no noise, but when it strikes there is no cure for the blow.* The majority of mankind, however, regard death as their worst enemy, and shrink from the time when they shall become *pabulum Acherontis*. Even Charles Lamb, who was very far from being worldly-minded, dreaded the uncertainty regarding our future state. He seemed to feel a palpable horror at the thought of going to an unknown, an undiscovered country. "God help me," says he, "when I come to put off these snug relations and get abroad into the world to come! I shall be like the crow in the sand, as Wordsworth has it."

Finally, it may in all truth be said that dying is as natural as living; and, to those who find this world an unsatisfactory abiding place — and their name is legion — and who do not share in the fears of death entertained by the many, may be commended the consolatory words of the Persian poet. "If," says he, "this world were our eternal abiding place, we might complain that it makes our bed too hard. But it is only our night-quarters on a journey, and who can, under such circumstances, expect home comforts?" And to those who, so far from dreading death, are anxiously awaiting it as a remedy for ills which are immedicable in this life, may be quoted the consolatory and patience-inspiring line from Pliny: *Longissimus dies cito conditur.*

However, whether we dread it or look forward to it with joy, the day will inevitably come for each of us when it must be said, as the old Romans used to say:

APIO OPUS EST.

BUFFALO, I. N. D., Xmas, 1889.

THE health officer of Chicago has refused to accept "heart failure" as a cause of death. It is said that one hundred and fifty death certificates so signed have been returned, with a request for information as to the true cause of death.—*Times and Register.*

CARCINOMA OF THE PANCREAS.[1]

By NELSON G. RICHMOND, M. D., Fredonia, N. Y.

THE infrequency of Carcinoma of the Pancreas, and the difficulties surrounding a diagnosis, are facts admitted by all. Niemeyer's Text-Book and Hartshorn's Essentials of Practical Medicine have nothing to say on the subject. Flint condenses it into two pages. Ziemssen's Cyclopedia and Pepper's System each discuss it more fully.

I well remember the joke a medical friend of mine perpetrated upon a brother practitioner some years ago. At a post-mortem which was held, the real cause of death could not be discovered. As a way out of the dilemma, a perfectly healthy pancreas was held up and explained as the seat of the disease. The family were perfectly satisfied; so was the other physician. After leaving the house the deception was disclosed and the joke well enjoyed.

The following case of Carcinoma of the Pancreas, recently under observation, may be of interest on account of its rarity:

Mr. B. C., æt. 56, consulted me in February, 1889, with the following history:

The family history was negative, mother dying from a miscarriage, and father living to 87 years.

Previous History.—As a boy he was robust and strong, was the champion wrestler, and was nick-named "Stub." When he was thirteen years old, he contracted typhus fever, there being six other cases in the house, two of whom died. The disease was brought from the West by a man whose wife died with it, and whose children were taken after coming East. It became epidemic.

Patient never felt so well after this. While still pale and weak he entered school and was induced to try a "back-hold" with a new boy who had come into the field. With arms around each other's body, the knuckles of his opponent's hands were brought together and so forcibly pushed against the spine as to cause a severe pain, and he dropped to the ground. He "felt something give way," he said, and was never hurt so badly in his life. He said nothing about it at home, but felt weak and sick for some time. Some months later his parents noticed one shoulder drooping. He was taken to a physician, who discovered rotary lateral curvature of the spine.

According to the methods of the time, the treatment was to be either a seton, venesection or — nothing. He was advised to give up farm work and study for a profession, but he remained on the farm. He never had any illness until of late years, but he was peculiarly unlucky as regards accidents, the above being one of a series.

He was at one time tossed up and down on the horns of a short-horn Durham, escaping death almost miraculously, but with bleeding legs and arms, and an injured back. He could not step for six weeks.

Three years ago he slipped on the ice and fell, striking *his back* again on the edge of a wash-tub. It was some time before he could get his breath. At another

1. Read at the sixth annual meeting of the Fourth District Branch of New York State Medical Association, held in Buffalo, N. Y., May 13, 1890.

time a horse, grazing, threw up his head suddenly, striking him in the epigastrium. He was knocked back several steps, and hurt badly. He was also run away with by a team, and injured in the head. Even besides these there were a number of minor accidents.

When a boy and young man he was subject to very severe headaches which often lasted for two weeks. No medicine relieved them. They were thought due to the spinal curvature. For years there has been tenderness over the epigastrium, and he hardly knew what it was to be without pain. For the past ten to twelve years he has had bilious colic, morphia alone relieving him. He had these attacks two or three times in a season. His wife noticed failing health for some years. He did not increase in weight as formerly during the winter. He has always been a hard-working, very energetic man.

Present History and Condition.—In September, 1889, there passed the patient's bowel what he described as soap. There was a scalding sensation, and he felt as if a hot iron were passed up the rectum. This symptom continued, at intervals of a few days, from September to May. Whenever he ate fats it was worse. Starchy foods controlled it. At one time he was put upon peptonized cod-liver oil, but it did not agree with him.

When I first saw him, in February, he complained of pain in the epigastric region, running through to, and up and down spine. The pain radiated in every direction. The entire region was tender to the touch. He had lost flesh, though his appetite and digestion were good. The pain seemed to have no connection with the latter. The tongue was clean; there was no odor to the breath; no jaundice. The peculiar stools, he described, came liquid from the bowel, and when cool formed solid plates of a golden yellow, and could be handled like wax. They covered the feces, and were not mixed with them.

Examination showed a tumor in the epigastric region, presenting a surface the size of a fist. It extended from the region of the gall-bladder across to the left of the median line. It was impossible to find any division between it and the liver, and it seemed a part of the liver. It was tender on palpation and easily detected in the recumbent posture. There was rotary lateral curvature of the spine. The spine curving to the right in the region of the liver displaced the liver forward and to the left. The possibility of this displacement accounting for the enlargement in front was carefully considered.

A probable diagnosis of cancer of the liver was made at the second visit, and a friend outside of the family told of the hopelessness of the case. Treatment was instituted with a view of increasing assimilation — morphia as occasion required. From that time on he required morphia, and whenever out from under the influence of it, the pain was severe. At times he would seem better, and ride out, but always felt worse afterwards. He went to Buffalo to consult Drs.

Park and Stockton; he was also seen by other medical men, with some of whom the diagnosis was that of a malignant growth, with others non-malignant, while still others preferred not to commit themselves. There were also differences of opinion as to its origin. Malignancy was doubted by some from the fact that failure was so gradual, and was followed by some weeks of seeming improvement.

In July, and just again before death, there were periods of icterus, the urine containing bile also. The tumor did not increase in size. Emaciation progressed, pain increased, appetite failed, and digestion was at last attended with a burning sensation. He died very easily in February, 1890.

Autopsy eighteen hours after death. Rigor mortis well marked. Body extremely emaciated. Icterus apparent in skin and conjunctivæ.

Percussion disclosed no tumor in epigastrium, and its former seeming connection with liver was proven false. Upon entering the abdomen, the stomach and liver were pushed away, and a tumor revealed, about the size of a large fist. It proved to be the enlarged head of the pancreas; the tail was normal in size, but together with the head was breaking down throughout its entire extent into a soft, gray, pultaceous mass. The growth involved for some distance the outer wall of the duodenum, the liver, the spleen, and the lesser curvature of the stomach. It also surrounded the common bile duct, occluding it, hence the jaundice, two attacks of which he had had.

The greatest degree of spinal curvature was directly behind the pancreas, at the first lumbar vertebra. Any irritation of surrounding structures, from displacement of the bodies of vertrebræ, would be felt first in the pancreas. This might have been an exciting cause of the disease; his other injuries also were severe blows upon the spine, and in the epigastrium.

Of the fifty cases I have been able to collect, the following are the most prominent symptoms: emaciation, pain, jaundice, fatty stools, chalky or clay-colored stools, tumor in epigastrium. The pain of this disease is more continuous than in cancer of the pylorus, from which it is often difficult to differentiate it. It also radiates in more directions. Jaundice is a very frequent symptom, and occurs from the cancerous mass surrounding and occluding the ductus choledochus. This duct, opening in common with the main pancreatic duct, is first to be involved and its flow of bile obstructed. It would not be surprising to find jaundice a more common symptom in cancer of the pancreas than in cancer of the liver. One author gives it as found in less than one-third of the cases of cancer of liver; another says it

was found in sixty seven out of one hundred and forty-six cases. The emaciation is caused by robbing the system of the fats which the pancreas is accustomed to saponify. It was noted in every case.

This brings us to the question of fatty diarrhea or its absence, and its value as a diagnostic symptom in suspected cases of pancreatic disease. It would seem that disease of this organ to any extent would give stearrhea as a pathognomonic symptom and one invariably present. Dr. Jenner says there is no symptom pathognomonic of cancer of the pancreas, and from the absence of this symptom in a large number of cases, we are forced to the same conclusion. Dr. Richard Bright, in 1832, was the first to connect this symptom with disease of the pancreas. He reported three cases, in which the pancreas was so disorganized that its secreting function must have been almost if not entirely lost. Dr. Lloyd and Dr. Elliotson each have reported cases about this time. Prof. Erb, of Heidelberg, recently presented a patient in his clinic with this disease, having stools of a silvery gray color. Chemical analysis showed that one-half the amount of solids was made up of fats. The microscope revealed ascicular crystals which were soluble in ether. In some of the cases where this symptom is not spoken of, fatty diarrhea may have been overlooked, or there may have been the above condition. Erb considers this an exceptional symptom, and that fat in the stools of the amorphous form was usually found.

Erb, Friedrich, Nothnagel, and Gerhardt have recorded cases with fatty diarrhea, and consider that when fatty crystals are present in excess, there is not only pancreatic disease but also occlusion of the bile-duct. Da Costa in 1858 reported thirty-seven cases, fatty stools being present in only three.

Dr. Reginald Fitz has recently made an exhaustive study of Diseases of the Pancreas. He has collected of hemorrhagic pancreatitis, seventeen cases; pancreatic hemorrhage, sixteen cases; suppurative pancreatitis, twenty-two; gangrene of pancreas, fifteen; disseminated fat necrosis, two. In no case is stearrhea spoken of. In five other instances it was reported absent. In many cases it has been controlled by eliminating all fat from the food, as in the history given. Others have noted cases with this symptom present where all fats and foods convertible into fat have been stopped. A tumor in the region of the pancreas in connection with fatty stools must be considered a strong argument in favor of cancer of the pancreas. And yet, on account of its being recorded absent in a greater proportion of cases, we must agree with Jenner that there is no pathognomonic symptom. It is not always easy to differentiate the tumor, *per se*, from gastric, duodenal, and hepatic tumors.

One point we believe to be true is that carcinomatous tumors of the pancreas are limited to a size not larger than one or both fists. The tumor is more obvious in the recumbent posture, since in the erect posture the liver and stomach come over it. This symptom helps to differentiate it from cancer of the pylorus. A full meal also causes it to disappear.

The duration of this disease is from one to two years.

Varieties. — Scirrhus cancer of the head of the pancreas is most common; encephaloid next in order; cylindrical-celled epithelioma occurring least often.

Treatment. — As regards medicinal treatment little can be said. It is necessary to control the pain as occasion requires. Symptoms are to be met as they arise. A diet which is most easily digested and assimilated.

Artificial digestives whenever they can be used.

In a monograph now issued in a work entitled Experimental Surgery, by Dr. Nicholas Senn, of Milwaukee, among other points advocated in the surgery of the pancreas, are the following:

1. Complete extirpation of the pancreas is usually followed by death, produced either by traumatism or gangrene of duodenum.

2. Partial excision of pancreas in injury or disease is a feasible and justifiable surgical procedure.

3. Complete obstruction of the pancreatic duct uncomplicated by pathological condition of parenchyma of organ never results in the formation of a cyst.

4. Partial excision is indicated in all cases where disease can be removed completely without sacrificing pancreatic digestion or wounding important adjacent organs. In all operations the pancreatic duct must be maintained.

6. Gradual atrophy of the pancreas from nutritive or degenerative changes is not incompatible with health.

I have for your examination a section of an enlarged lymphatic gland taken from the vicinity of the pancreas. It proves to be cylindrical-celled epithelioma.

Professor Zwibeer, of the University of Bonn, is a very absent-minded man. He was busily engaged in solving some scientific problem. The servant hastily opened the door of his study, and announced a great family event.

"A little stranger has arrived."

"Eh?"

"It is a little boy."

"Little boy? Well, ask him what he wants."—*Humoristische Blatter.*

Society Proceedings.

MEDICAL SOCIETY OF ERIE COUNTY.

Reported by WILLIAM H. THORNTON, M. D., *Secretary*.

THE regular semi-annual meeting of the society was held at the rooms of the Young Men's Christian Association, Tuesday, June 11, 1890.

The meeting was called to order at 11 o'clock A. M., by the President, Dr. G. W. MCPHERSON.

The minutes of the previous meeting were read and approved.

The committee on membership reported in favor of the election of the following applicants:

Drs. E. E. Briggs, F. M. Gipple, Allen A. Jones, Wm. C. Krauss, R. E. Moss, M. Retel, Emile Schroeder, Hugo Schmidt, Otto Thoma, and J. C. Thompson.

Upon motion of Dr. J. D. HILL the report of the committee was adopted.

The committee on membership reported the following applications:

Drs. L. B. Dorr, B. S. Bourne, Henry Mulford, E. A. Forsyth, H. Y. Grant, C. O. Chester, C. T. Wolsey, A. F. Andrews.

Upon motion of Dr. EDWARD STORCK it was voted that the secretary send notice to all those who have been elected to-day of their membership, and send them a copy of the by-laws and constitution; also to those who have been elected recently and who have not received such notice.

The Board of Censors presented their report, as follows:

To the Medical Society of Erie County:

The Board of Censors, at a former meeting, were directed to bring a test case before a proper tribunal, in order to prove whether the law of 1828, embodied in the statutes of this State, by which membership in a legal medical society is made obligatory upon physicians and surgeons practicing in the county, is still in force. Thereupon your Board engaged legal counsel. Mr. William B. Hoyt furnished a written opinion, which was submitted to the society at a former meeting. According to this opinion the law cited is still in force. Any physician or surgeon who neglects to apply for membership in a legal medical society of the county in which he practises for sixty days, after proper notification by the president of such society to do so, forfeits his license, and if he still continues to practise he makes himself liable to the penalties imposed upon those that practice without license. The Board had notices served by the president upon a number of practitioners in this county, not members of a county

medical society, who are regular graduates of legal medical schools, but are doing an advertising business, in violation of medical ethics and by-laws of medical societies. Some of these physicians have made application for membership in this society. Your Board, therefore, cannot commence legal proceedings against those physicians. According to the laws of the State they are entitled to membership in a legal medical society if they are in possession of a diploma or license legally granted, and should be admitted. After they have become members of the society, if they still continue to practice in violation of medical ethics and the by-laws, they then can be disciplined and expelled from the society, when the diploma or license they hold would become null and void. Such a case has been before the Board at its last meeting. Dr. Hugh J. Linn was served with a notice by the President, as he was practising in this county, not being a member of a society in the county. He claimed the right to practise, on the ground that he was a member of the Medical Society of the County of New York. He was since expelled from that society for practising in violation of its by-laws and medical ethics. Your Board will serve notice upon him to desist forthwith from practising medicine until he has complied with the laws of the State, or legal proceedings would be commenced against him. Your Board also have decided to prosecute others who have not made application for membership, as prescribed by law, as soon as the society will take action upon the application now in the hands of the committee on membership.

The following named persons have been reported to the Board as practising medicine in this county in violation of the laws of the State, not having either license or diploma authorizing them to do so:

Frederick Simon, Spring street, Buffalo.

Rudolph Waldvogel, Jefferson street, Buffalo.

Mrs. Bronson, Willink, Aurora.

Sarah A. Woodruff, East Aurora.

These cases will be given to the district attorney, to be brought before the grand jury at its next session, if sufficient evidence will be furnished by the plaintiffs.

There are several druggists in this city who are doing considerable prescription business over the counter, and cases have been reported where serious results have been the consequences. The Board will proceed against them as soon as we have sufficient evidence to convict.

The Board of Censors,

E. Storck,
P. W. Van Peyma,
Henry Lapp,
Jos. L. Haberstro.

Upon motion of Dr. W. W. Potter, it was voted that the report of the Board of Censors be received and an order drawn upon the treasurer for the amount, $50.00, asked for by the board.

Dr. Rochester stated that there were no applications before the committee on membership which had not been acted upon. There-

upon the following clause was stricken from the report of the Board of Censors, as read: "But our committee on membership has, until now, failed to act upon their applications."

Upon motion of Dr. W. W. POTTER it was voted that the report of the Board of Censors be adopted, and that the society endorse the proposed action of the Board, as set forth in their report, against the several individuals named therein.

Dr. WYCKOFF moved that the names of those who have applied for membership and who have not been admitted be reported to the society, and those who have presented diplomas be re-committed to the committee for further consideration.

Dr. STORCK moved to amend that the committee on membership be hereby directed to report in favor of the admission of all applicants who are regular graduates of a legal medical school, if there are no serious objections to them in other respects sufficient, in the opinion of the committee, to warrant a report against them, the objections if any being reported back to the society.

The amendment was carried.

The original motion, as amended, was carried.

The secretary read letters from Assemblymen Sheehan and Andrus, and Congressman Farquhar.

Upon motion of Dr. STORCK the letters were received and filed.

Dr. BRIGGS, from the committee, presented the following memorial upon the death of Dr. A. J. Brooks:

MEMORIAL OF DR. A. J. BROOKS,

Late of Marilla, Erie County, N. Y.

Andrew J. Brooks was born in the town of Concord, Erie county, N. Y., August 5, 1832, and died at his home in Marilla, N. Y., April 16, 1890, aged 57 years.

Doctor Brooks was the son of John and Lydia Brooks. He received his early education in the district schools of the neighborhood where he was born, afterward attended the academies at Aurora and Springville, and finally graduated from the Genesee Wesleyan Seminary at Lima, N. Y. Shortly afterward he went to the Albany Medical College, from which institution he graduated in 1860, and immediately thereafter located at Marilla, N. Y., where he successfully practised his chosen profession, until stricken down with the illness which caused his death. Dr. Brooks, at the time of his death, was the health officer of his town, having held the office from the time the board of health was organized, in 1883, and was always an efficient and reliable officer. His family who survive him are his wife and six children. The eldest son, Ralph, is now a student of medicine in the medical department of the University of Buffalo.

The doctor's occupation for thirty years was the *practice of medicine*, and that only. It was enough for him to be a doctor, and he never turned aside to seek for political preferment or to gain riches in any other pursuit. His life was the trying one of a country doctor, yet he never complained of his lot, but kept straight on in

his work to the end. His death is a great loss to the community in which he lived, to the church in which he was a faithful worker, and to the profession, of which he was an earnest, faithful member.

Your committee would recommend that this sketch be spread on the minutes of this society.

A. H. BRIGGS,
E. T. DORLAND,
M. B. SEARLES,
} *Committee.*

Dr. HAUENSTEIN presented the following memorial upon the late Dr. A. Devening:

MEMORIAL OF DR. DANIEL DEVENING,

Late of Buffalo, N. Y.

By JOHN HAUENSTEIN, M. D.

At the advanced age of seventy-nine years, Dr. Daniel Devening departed this life on March the 5th, 1890. He was graduated at the medical department of the University of New York in 1846, and in the same year began the practice of medicine in this city, in the pursuit of which he was engaged up to the time of his death. Although of late years somewhat retired, and therefore not so generally known by the younger members of the profession, he was so much better known and appreciated by the older members, very few of whom now remain with us.

He was an estimable man, a devoted student, and a conscientious and skilful physician; courteous in his bearing and intercourse with his colleagues, commanding the respect of all of those with whom he came in contact in his professional as well as in every-day life.

He at one time took an active part in military affairs, and acquitted himself with honor as an officer.

In 1855 and '56 he represented his district in the assembly of the State legislature, and in 1858 was a member and chairman of the Common Council. From all these positions he retired with the grateful remembrance of his constituents, after having performed his duties faithfully and honorably.

This society desires to express its sincere and respectful sympathy to the family and friends of the deceased.

Upon motion it was voted that the thanks of the society be tendered to Drs. Briggs, Dorland, and Searles for presenting the memorial upon the death of Dr. Brooks, and to Dr. Hauenstein for presenting the memorial upon the death of Dr. Devening.

Upon motion of Dr. STORCK it was voted that the secretary be requested to send copies of the memorials to the families of the deceased.

Dr. ABBOTT moved the adoption of the resolution introduced in writing by him at the last meeting, that Sec. 3, Art. V. be amended to read, "No candidate shall be present when the question of his admission is determined by the society."

The amendment was adopted.

Dr. BRIGGS gave written notice that he would move, at the next meeting, an amendment to the by-laws providing for the appointment of a permanent committee on necrology.

Dr. ABBOTT presented in writing, to be moved for adoption at the next meeting, an amendment to Article II., adding after the word secretary the words "assistant secretary," and after the word treasurer the words "assistant treasurer."

Dr. ABBOTT reported that he had received from the Buffalo MEDICAL AND SURGICAL JOURNAL a bill for $18.00 for copies of the JOURNAL for the last nine years.

Upon motion it was voted that an order be drawn to pay the bill.

The society then adjourned.

BUFFALO OBSTETRICAL SOCIETY.

Reported by WM. C. KRAUSS, M. D., Secretary.

STATED meeting held May 27, 1890.

The president, Dr. C. C. FREDERICK, in the chair.

The essayist of the evening, Dr. WILLIAM H. THORNTON, prepared the following paper, which was read by the secretary, entitled

LABOR PAINS AND AFTER PAINS.

In the management of obstetric cases our duty is by no means all done when, having assured ourselves that the presentation is normal, we leave the case to nature until the completion of the second stage. I believe we should pay more attention than is usually done to the relief of suffering in these cases, and endeavour to guard against the exhaustion of the muscular and nervous systems following a prolonged labor. If we should conduct cases on the basis of giving patients as much freedom from pain as is consistent with their safety and a full regard for after effects, we would not only do what is humane, but we would in many instances bring our patients through to a more speedy and better convalescence, and avoid numerous of the preventable injuries of parturition.

My object in bringing this subject before the society is to discuss and elicit discussion of the various ways and means of alleviating and shortening the suffering incidental to an ordinary case of childbirth, and to consider the extent to which we should apply these means. These cases form so important an element of our practice that I feel justified in taking your attention this evening for a consideration of

what I regard as a very important element in their management. I do this with the hope, not so much of suggesting things new, as of bringing freshly and consecutively to our minds the various therapeutical and mechanical resources of our art applicable to the relief of the suffering of womankind in this time, which to her is usually the culmination of months of anxiety.

The pains in the beginning of labor are chiefly due to the pressure on nerve filaments caused by contraction of the muscular fibres to which they are distributed, and are shortly followed by the severer ones due to the stretching and dilatation of the cervix. This is accomplished partly by muscular contraction, and partly by mechanical pressure of the soft fluid wedge formed by the projecting bag of waters or the presenting part. As this process goes on, the cervix gradually grows thinner and shorter, and is finally taken up to form with the body of the womb and the vagina a continuous canal. In the second stage the presenting part, passing into the vagina, presses upon the vaginal nerves and the large plexuses lying within the pelvis. Then, descending still lower, it presses upon the bladder and rectum, and finally stretches open the vulva and perineum.

The pains preceding the dilatation of the cervix usually come with considerable intervals between each, and are not of a very severe character. But in many cases the pains caused by the opening of the cervix, although not so severe as those of the later stages, are of such a character that they are more exasperating and wearing to the patient than those later on, when she can appreciate the results which they accomplish. This is especially true when we have a rigid cervix. This may be at times thin and hard, or thick and unyielding. At times the induration is due to cicatrices resulting from former labors. Unless this condition is relieved, patients exhaust their strength and courage and accomplish little toward the progress of the labor. Formerly this condition of rigid cervix was treated by venesection, or by minute doses of tartar emetic. At present better methods have thrown these old, but usually efficient, methods into disuse. In overcoming this difficulty it is important to do so with a remedy which will give relief, without at the same time retarding the labor. In France a warm bath is much used — either an entire bath or a hip bath. A midwife often attempts to secure the same result by seating the patient over a pail of steaming hot water. Playfair speaks highly of a douche of tepid water applied to the cervix. Either the douche or the bath are, however, so inconvenient to use that they would be apt to be postponed as long as possible. The application of extract of belladonna has been advised, but is not shown to be of much value.

Stretching the cervix with the fingers or with rubber dilators is sometimes useful, especially when the early escape of the waters has thrown this work upon the hard presenting part instead of the usual fluid wedge. Chloroform may be administered to the extent of producing muscular relaxation, but there are many objections to using it at this stage of labor to that extent. When cocaine first came into use great things were expected of it here, but it has usually disappointed those who have tried it. In chloral, however, we have a drug which in nearly all cases will produce the desired results, without being subject to the objections that apply to the other methods suggested. It acts here in a double way,—by relaxing the tense and hardened muscle, and by producing a drowsy condition in which the patient feels the pain much less acutely. Dr. Taylor, of Cincinnati, made some experiments with antipyrin, but found that though it relieved the pain to some extent, it had some depressing effect and retarded the labor. I am not certain, however, that his experiments were carried out to a sufficient extent to be conclusive as regards the utility of this agent. Chloral, to be effective here, should usually be given in doses of about fifteen grains, and repeated two or three times at intervals of fifteen or twenty minutes; or, as has been recommended by some, in a dose of one dram by enema, and repeated in four or five hours, if necessary. Given in this way, chloral not only does not lessen the force of the contractions but seems rather to make them regular, although it does relieve largely the severity of suffering.

Charpentier speaks in high terms of the use of chloral. He says: "We have seen that the partisans of modern anesthesia resort in particular to chloroform during the stage of expulsion, but this period, although perhaps the most painful, is not the most unendurable. It is then that parturients take account of the progress of their labor, regain courage, listen readily to the counsel of their physicians, and are in reality less irritable and excitable, except, perhaps, during the last contractions, than during the first stage of labor." Now, it is during the first stage of labor, that is to say the period of dilatation, that chloral has appeared to me of incontestable utility. When the pains in the back are very pronounced or dilatation is slow, either because of feeble or irregular pains or because of rigidity of the cervix, in primipara, for example, then it is that I have used chloral. The drug has never seemed to me to have a bad effect upon the pains. In the second stage of labor, the expulsory stage, the action of chloral has seemed to me less marked. We then have recourse to chloroform, even as when manual or instrumental assistance is called for.

In the second stage, if the pains are very severe and progress is

slow, anesthetics are often called for. Given carefully and intermittently, in proper cases, the good results from their use certainly outweigh the occasional objections to them. Although at times they retard the labor, it very often happens that labor is greatly facilitated by their use, partly by relaxing the vaginal and perineal muscles, and partly by lessening the suffering, so that the patients will bear down longer and harder than when the pain is felt more acutely. If the anesthetic is given at the beginning of the pain and discontinued at its expiration, the patient will experience great relief therefrom, no delay will be caused to the labor, and there will be freedom from the occasional unpleasant after-effects produced by full narcosis. Again I will quote from Charpentier, for I fully agree with most that he says on this subject. He separates the administration of chloroform into what he calls the surgical and the obstetrical dose. Given in the obstetrical dose he says:

(1). Chloroform given in small doses unquestionably takes the edge off the pains, and thus gives the parturient both moral and physical strength. At the same time the intervals between the contractions are lengthened. (2). Complete analgesia we have never observed, except under deep anesthesia, and then the drug is administered in a surgical dose. (3). At times chloroform, instead of quieting, excites the patient to such a degree that we are obliged to cease its administration. (4). Occasionally it has seemed to us that chloroform has diminished the contractile powers of the uterus, and therefore caused hemorrhage more or less grave. This can easily be guarded against by the administration of a dose of ergot immediately after the completion of the third stage. (5). Its action on the fetus is nil. (6). Administered during the period of expulsion, chloroform certainly diminishes pain, but its effect on the contractions of the abdominal muscles and the resistance of the perineum has seemed to us less marked than is generally supposed. There is another anesthetic to which we often have recourse, and which has frequently rendered us yeoman service. We refer to chloral."

Ether can be used in cases where chloroform is inadmissable, but owing to the longer time requisite for its administration and the inability to administer it intermittingly as easily as chloroform, the latter should be preferred.

We next come to a consideration of the mechanical means at our command to shorten labor.

Dr. Opie, of Baltimore, favors the use of manual pressure over the fundus, and quotes Kristeller, of Berlin, who claims for it the following advantages:

(1). It shortens the duration of labor. (2). The normal position of the child is preserved. (3). The application of forceps is frequently rendered unnecessary. (4.) It thereby aids in protecting the perineum. (5.) It facilitates and hastens the nevertheless often necessary forceps delivery. (6.) It preserves the upward extension of the arms in breech delivery. (7.) It hastens the expulsion of the

shoulders after the birth of the head. It has been said that the results are more favorable than in forceps cases; that there is less local inflammation and less septicemia."

This method of assistance is not, I think, much used in this country, but it doubtless in some cases would be of decided advantage.

There is a wide diversity in the practice of different physicians as to the class of cases in which they would apply the forceps, some maintaining that it should never be used when the forces of nature are equal to the task of delivery, while others maintain that this is an unnecessary and cruel restriction of the use of this humanitarian aid.

As this paper is written simply to discuss the methods and extent to which we should take part in an ordinary case of uncomplicated labor, I shall speak of the application of the forceps only in the second stage, since in the first stage its application is a matter of such difficulty and danger that its use should be decided for or against solely on the ground of necessity; but in the second stage other elements enter into the consideration. The alliterative term, "meddlesome midwifery," is much used by those who are accustomed to speak strongly against the use of forceps except in cases of absolute necessity. The question then comes up at what point does our instrumental aid become meddlesome? Are there not many cases in which nature alone can complete the case in the course of several hours, but where we are fully justified in giving instrumental aid to greatly reduce this period? I believe that where we have in such cases patients of delicate physique, of a highly nervous temperament, or those who bear pain very badly, or where the pains are regular but weak and inefficient, the amount of nervous and physical exhaustion which we save them more than justifies us in giving instrumental aid. I shall not discuss the effect of this aid upon the maternal structures, for I assume that in cases where such results are likely to follow, the use of forceps will be postponed as long as is consistent with the well-being of the patient in other ways. But we should bear in mind that a slough from long-continued pressure is as bad, or worse, for the patient than a laceration due to instrumental delivery. We would all, I am sure, condemn most strongly the use of the forceps as a matter of convenience to the accoucheur in saving time.

If our patients were all in a natural, normal condition, there would be much more force to the arguments urged against interfering with nature in the performance of a physiological function; but we must treat our cases as they are, and make allowances for departures from the normal standard of energy and physical and nervous strength.

There is a natural tendency to become somewhat indifferent to the suffering of our patients, and not give to that element the weight to which it is entitled in deciding upon our management of an obstetric case.

The third stage of labor being past, we should direct our attention to the prevention of after pains, which, in some cases, give rise to as much suffering, or at least annoyance, to the patient as the pains of delivery. This can only be done at the expense of some time and attention by the physician. The placenta being delivered, we should at once, by gentle and persistent manipulation, having emptied the womb of all clots, bring it into a condition of firm and uniform contraction. It is then my habit, in most cases, to administer half a dram of Squibb's ergot, and direct that it be repeated in case the after pains are severe or the flow should become too great. By this means we have an assurance, which we can get in no other way, that the uterus will not relax soon after our departure and put our patients in extreme danger.

A neatly applied abdominal bandage also aids, by making slight pressure, in keeping up uterine contraction, and it certainly gives the patient an agreeable feeling of support. For the relief of such pains as are not prevented by the means suggested, it has been my custom for some time to order five grain doses of acetanilid, repeated in three to six hours, as occasion requires. This has given very satisfactory results. Chloral also is of much benefit here.

In thus urging, as I have, that greater attention should be paid to the question of pain in labor cases, I by no means wish to be understood as advocating the wholesale use of anesthetics and forceps; but I do wish to maintain that more consideration should be given to this subject, and that the use or non-use of anesthetics and other aid be not always decided upon the ground of necessity, but that in cases of prolonged and extreme pain these agents be given more than a potential place, and that as a matter of humanity some of them be used unless there are positive indications to the contrary.

DISCUSSION.

Dr. W. S. Tremaine.—The custom among the Mexican women during labor is to sit in their husband's laps and have them apply force to the abdomen. This generally accelerates labor, and is analagous to a procedure sometimes applied during protracted labor.

Dr. Delancey Rochester.—I do not think it is advisable to give ergot for the after pains. If the uterus is thoroughly emptied of all

clots there will be no after pains. Ergot and opium are better than ergot alone. I have given antipyrin in several cases without any results.

Dr. A. E. Persons.—I think that in some cases we may use means to relieve pains. I do not believe in pushing chloroform very far, except only during the application of forceps. I usually permit the patient to administer the chloroform herself; then there will be no danger of an overdose, and you will avoid complete anesthesia. Chloral, per rectum, is also a very good method.

Dr. Marcel Hartwig.—Hydrate of chloral does not diminish labor pains at all. It increases the pains and contractions, but does not relieve the pain. How it acts per rectum I cannot understand, as it is irritating and apt to be expelled. Cocaine I have not used. Hydrobromate of hyoscine might be of value in these cases. Ergot seems to relieve the after pains.

Dr. A. H. Briggs.—It has been my experience and observation that between drugs and operative measures I have always chosen the latter, viz., fingers and forceps. I had a case years ago where a patient had dropsy, and the urine was almost all albumen. Dr. Rochester advised to induce labor. In the afternoon I used simply my index finger, dilating the os; the pains began and labor terminated three hours afterward. In the administration of ergot I never give it before the birth of the child. In the use of instruments I don't follow the first advice given me, but use them early, when there is the slightest tendency to delay.

Dr. P. W. Van Peyma.—As to chloral, I formerly used it considerably, but have now given it up and use morphia and atropia in the first stage. As to steaming, I don't object to it nor do I second it; as to chloroform, I seldom give it in the first stage, but do in the second stage, and put the patient beyond the exciting stage, so as to quiet the feeling of pain. With forceps, the simple introduction of the blades will sometimes cause the head to descend. I have also used the fingers to dilate the os. One can start the labor pains artificially. Hypnotism has also been resorted to to ameliorate the pains of labor.

Dr. Thos. Lothrop.—I don't believe it possible to ever overcome the pains of labor; it is but the expression of a natural law. I don't give any drugs, and don't interfere in normal cases. As women advance in the scale of civilization, deliverances, become more difficult. In case the pains are biting, irritable and exhausting, I give morphia $\frac{1}{4} - \frac{1}{3}$ of a grain. Dr. White's remedy was Dover's powder, and I think it was good practice. In old primiparæ, with rigid-

ity of the soft parts, nothing is so efficacious as hot water. It does not mitigate the pains, but helps dilate the soft parts. In cases of rigid os nothing compares with venesection. In the latter part of the second stage I occasionally give chloroform.

Dr. C. C. FREDERICK.—For the more acute pains of the second stage chloroform has given good results in my hands. In cases of rigid os, a combination of chloral and morphia act better in hastening the first stage than either alone.

Dr. WM. C. KRAUSS.—In the woman's hospital at Munich ergot is given only after the birth of the child. It is never resorted to beforehand. I have never seen any anesthetic administered to alleviate the pains of the second stage, perhaps because the patients under observation were city cases. If a patient is susceptible and has been hypnotized several times beforehand, this may be resorted to during the second stage, but I don't believe it would be good practice as a rule.

Dr. R. L. BANTA.—In the use of morphia for mitigating the pains of the first stage, it acts well and helps to dilate the os. I think we ought to mitigate the pains of labor when we are able to do so.

Dr. H. C. BUSWELL.—In the pains of labor I usually give ½ - ¾ of a grain of morphia.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Reported by W. H. BERGTOLD, M. D., *Secretary.*

REGULAR monthly meeting, held June 3d, at 8.45 P. M., in the parlors of Hotel Iroquois.

The president, Dr. A. A. HUBBELL, in the chair.

In the absence of the secretary, Dr. JACOB FALK acted in that capacity.

Dr. T. HAVEN ROSS was proposed for membership.

Dr. FLOYD S. CREGO then read a paper on Psycho-Therapeutics or Treatment by Hypnotism and Suggestion.

DISCUSSION.

Dr. PUTNAM said the same experiments quoted by the speaker were reported years before our present time, and these tricks have been traditional for years. Patients are easily hypnotized after severe operations have been performed on them. Cases seen the first time are more difficult to bring under the influence of the operator. In

France, Dr. Putnam was able to hypnotize many cases, but on his return home he did not find it so easy as his experience in Europe. Some authors claim that the condition is altogether one of suggestion. Hypnotism as a treatment will be limited in this country. Here the condition will be an entirely new thing, and the cases will not lend the coöperation that is needful. One case of insomnia that Dr. Putnam had, failed entirely to be hypnotized. He has cured nocturnal enuresis in children by suggestion.

Dr. HOPKINS said that mental suggestion is the only scientific fact of homeopathy; whatever the result may be, it is suggestion. In bringing the patient to a condition of hypnotism, coöperation is the word, not concentration.

Dr. HOWE thinks there is no coöperation necessary on the part of the patient in many subjects. Cases seen by him at Charcot's clinique, in Paris, were readily hypnotized, though the hesitation of the party to readily submit may cause delay in the success of the attempt.

Dr. RING thought the question will ere long be recognized by the legislature.

Dr. VAN PEYMA asked for information regarding hypnotism in animals.

Dr. HOPKINS here stated that sometimes in sending patients to eminent men of the profession in other cities, they would return to him immensely improved, with a memory of every little thing which this doctor did for them during the consultation, and drew attention to this as a species of coöperation.

Dr. PUTNAM believes that hypnotism frequently produces diseases. A certain proportion of hysterical cases will be made worse. Prof. Meynert, of Vienna, prefers to heal disease, not give cause for it.

Selections.

EXCERPTS.

By JOHN A. MILLER, M. Sc., Ph. D.,

Professor of Medical Chemistry and Toxicology in the Medical Department of Niagara University.

BRIEGER'S TYPHOTOXINE. By L. De Blasi. (*Gazetta*, xviii., 521; *Jour. Chem. Soc.*, 1890, p. 321.) The author undertook a series of investigations to determine whether the ptomaine obtained by Brieger from the broth cultures of Eberth's bacillus is due to the specific action of that organism or only to the action of heat and acids on the albuminoids.

Pure cultures of *Eberth's bacillus* and of *micrococcus caudidans* were

allowed to remain at a temperature of 37° for forty days, and then examined for alkaloidal substances.

The conclusions which the author arrives at are: That the method of direct extraction is valueless for the isolation of any definite alkaloid, but that Brieger's method is efficient, and that the negative result obtained from the culture of the non-pathogenic organism demonstrates that typhotoxine is either the direct product of the activity of Eberth's bacillus, or is due to the secondary action of heat and acids on some unstable substance produced by the bacillus. The results of inoculation with the substances extracted from the culture of *micrococcus caudidans* prove that the action of heat and acids was ineffectual to produce any toxic substance from it.

Influence of Inorganic Salts on Development. By S. Ringer. (*J. Physiol.*, 11, 79; *Jour. Chem. Soc.*, 1890, 393.) The author has previously shown (*J. Physiol.*, 4, 5, 6, 7,) the necessity of inorganic salts for sustaining life and vital activity, in muscular contraction, the heart beat, the action of cilia, and the life of fishes. Of these calcium salts seem the most important, and there is antagonism between the action of these salts and those of sodium and potassium. An excellent fluid for sustaining the heart's beat is made by mixing suitable small proportions of the salts of these metals; and of the calcium salts the phosphate appears to be the most effective. A fish which dies in distilled water in a few minutes, lives for weeks in river water, which always contains the necessary saline ingredients. In the present researches the inquiry is extended in order to ascertain whether the same is true for the development of frog's spawn and the growth of tadpoles, and it was found that it is so. Placed in distilled water they die in a few hours; the addition of sodium bicarbonate, or of lime water, or calcium chloride, is insufficient to maintain life. Calcium hydrogen carbonate and tribasic calcium phosphate, on the other hand, sustain life for a considerable time, and development goes on. It seems that those salts of lime, where the base is least saturated by the acid, are those most capable of sustaining function.

Human Chyle. By D. Noel Paton. (*J. Physiol.*, 11, 109; *Jour. Chem. Soc.*, 1890, p. 394.) In this case the chyle was obtained from a patient in whom the thoracic duct had been cut in an operation for the removal of a tumor of the neck. Systematic observations could only be made at the time when the patient was in an emaciated and dying condition; but from these it was roughly estimated that in health the flow must have been between 3,000 and 4,700 cubic centimetres in twenty-four hours. Four specimens were obtained for

analysis, the results of which are given in the following table, in parts per 1,000:

Water	943	958
Solids	56	41
Inorganic	6.2	6.7
Organic	35	50
Proteids	11.8	13.7
Fats	24	
Cholesterin	0.6	
Lecithin	0.36	

The percentage of solids gradually decreased as the patient became weaker. The proteids are present in smaller quantity than in previously recorded analyses. The percentage of fat is high, but is due to the use of a diet rich in fat.

Influence of Sodium Phosphate on the Excretion of Uric Acid. By A. Haig. (*Medico-Chir. Trans.*, 72, 399; *Jour. Chem. Soc.*, 1890, p. 397.) Disodium hydrogen phosphate is a well-known solvent of uric acid, and increases the excretion of that substance. When, however, commercial preparations of the phosphate were employed in cases of gout, it was found that attacks were precipitated, and both in these cases and in healthy persons the amount of uric acid excreted was diminished. Analysis showed these preparations to contain 1.2 to 6.8 per cent. of sodium sulphate, and it is this impurity which causes the retention of the uric acid. The pure phosphate acts as stated at the commencement of this abstract.

The addition of a little sodium hydrogen carbonate increases the efficiency of the phosphate, while the addition of acid (such as dilute phosporic acid) diminishes it. As the acid phosphate is a frequent impurity of the commercial preparation, and as it diminishes the excretion of uric acid, the *pure disodium hydrogen phosphate* should be employed.

Acetonuria and Diabetic Coma. By S. West. (*Medico-Chir. Trans.*, 72, 91; *Jour. Chem. Soc.*, 1890, p. 399.) The author made a systematic examination for acetone of the urine, of both healthy people, and those suffering from various complaints, and of those suffering from diabetes. The results of the investigation are as follows: *Acetone* is absent, or almost so in healthy urine. Acetonuria is common in diabetes without coma, and is not constantly present in cases of diabetic coma. It varies greatly in the same case from time to time, and without apparent cause. It stands in no relation to the amount of sugar in the urine, but varies independently of variations in the sugar and specific gravity. It is often found in other diseases

than diabetes. The author having found it in four cases of pneumonia, one case of cirrhosis of the liver, in one of spinal affection, in one of cerebral hemorrhage, and in one of delirium tremens.

The iron reaction[1], on the other hand, is rare, except in case of diabetes. It may be present when acetone is absent, or absent when acetone is present. They may be both absent or both present at the same time, and neither appears to stand in any definite relation to coma. The presence of acetone in the urine, or the occurrence of the iron reaction is, however, by no means *without clinical significance.* They indicate defective metabolism and that the patient is in a worse condition than when the tests gave negative results. Acetone and the substance which gives the iron reaction may be by-products in the formation of the yet unknown poison, and their presence often indicates the presence of this poison and the onset of coma. The occurrence of the iron reaction should be regarded as more serious than that of acetone.

On the Poisons Produced by Bacteria. By L. Brieger and C. Fränkel. (*Berl. klin. Wochenschrift*, 1890, No. 11; *Ber. Deut. Chem. Ges.*, xxiii., p. 251.) According to the authors the injurious action of pathogenic micro-organisms is due to the transformation products generated during bacterial activity. With this in view a number of scientists have undertaken investigations to determine the character of the substance or substances produced by the activity of the micro-germs. Loeffler, Roux and Yersin believe that the poison produced by the diphtheria-bacillus is an enzym; Hankin considers the poisonous product of bacillus anthracis, and Christmas of staphylococcus aureus to be an albuminose.

The authors of this paper have examined the transformation products obtained from pure cultures of the diphtheria bacillus, and find that the poisonous compound is neither a volatile body nor belongs to the ptomaines; but that it is a peculiar body of albuminous characacter, to which compound they have given the name *Toxalbumin.* This substance is easily soluble in water, is precipitated by alcohol, carbonic acid, concentrated mineral acids, potassium ferrocyanide and acetic acid, copper sulphate, silver nitrate, mercuric chloride; not precipitated by lead acetate, sodium, chloride or sulphate, and magnesium sulphate. It has the composition of *Peptone*; contains sulphur. Toxalbumin loses its poisonous properties upon heating its aqueous solutions to 60°; the perfectly dry substance can be heated to 70° for weeks without losing its poisonous properties. It produces the

1. The iron reaction consists in treating the urine with ferric chloride, by which a deep red-brown color is produced. This change of color was believed to be due to the presence of ethyl aceto-acetate in the diabetic urine. It is at present, however, uncertain whether due to this or some allied compound.—J. A. M.

same characteristic paralyzing effects as the diphtheria bacillus, and near the point of infection produces abscesses and necrosis, but *fails* to cause the formation of the *pseudo-membrane*. The formation of this membrane, therefore, is most probably due to the growth of the bacilli themselves.

The injected poison may remain dormant for weeks or months. If less virulent cultures are used, a less virulent poison is obtained.

REMARKABLE FECUNDITY.

I WAS called to see Mrs. E. T. Page, January 10, 1890, about 4 o'clock A. M.; found her in labor and at full time, although she assured me that her time was six weeks ahead. At 8 o'clock A. M. I delivered her of a girl baby; I found there were triplets, and so informed her. At 11 A. M. I delivered her of the second girl, after having rectified presentation, which was singular, face, hands and feet all presented, I placed in proper position, and practiced "version." This child was "still-born," and after considerable effort by artificial respiration it breathed and came around "all right." The third girl was born at 11.40 A. M. This was the smallest one of the four. In attempting to take away placenta, to my astonishment I found the feet of another child. At 1 P. M. this one was born. The head of this child got firmly impacted at lower strait, and it was with a great deal of difficulty and much patient effort that it was finally disengaged; it was blocked by a mass of placenta and cords. The first child had its own placenta; the second and third had their placenta; the fourth had also a placenta. They weighed at birth in the aggregate nineteen and a half pounds, without clothing; first weighed six pounds; second five pounds; third four and a half pounds; fourth four pounds. In the country, and "backwoods" at that, it was impossible to procure a "wet nurse," so with the little help we could control, and feeding the babies on "Reed & Carnrick's Infant Food," they thrived well. From using all the foods on the market I long since found out that the above food possessed some qualities that I failed to find in the others. Mrs. Page is a blonde, about thirty-six years old, has given birth to fourteen children, twins three times before this; one pair by her first husband. She has been married to Page three years, and has had eight children in that time. I have waited on her each time.

Page is an Englishman, small, dark hair, age about twenty-six, weighs about 115 pounds. There was quite an amusing incident occurred when I informed him that his wife would give birth to four children. He fell across the bed by his wife's side, threw his heels

away up in the air, clasped his legs with both hands, and with a long wail of despair, cried, "Lord God, doctor, what shall I do?"

They are in St. Joseph, Mo., now, having contracted with Mr. Uffner, of New York, to travel and exhibit themselves in Denver, St. Joseph, Omaha and Nebraska City, then on to Boston, Mass., where they will spend the summer.

The birth of quadruplets is not so remarkable, but that they should live and thrive as these have done is. In about 375,000 births there are quadruplets, and it is a remarkable fact that they always die. Will some of my brother M. D.'s give us their experience with quadruplets? —J. De Leon, M. D., Ingersoll, Texas.—*Dietetic Gazette.*

Treatment of Peritonitis.—Dr. W. E. B. Davis states (*New Orleans Medical and Surgical Journal*) that, from a study of local and general peritonitis, he concludes that the following indications for treatment must be arrived at: 1°. Promote absorption of the inflammatory products of simple peritonitis as rapidly as possible, and thus relieve the inflammation and prevent the possibility of septic peritonitis. 2°. In the early stage of peritonitis, whether simple or septic, where the cause cannot be determined, hasten the absorption of inflammatory products, etc., with purgatives. 3°. When medical treatment fails to give relief, septic fluids should be removed by operative procedure. 4°. In localized peritonitis — with circumscribed pus formation — the pus should be removed and the abscess cavity drained. 5°. In acute septic peritonitis operative procedure must be adopted early or there will be no chance of recovery offered by the operation, as the inflammation will become more extensive the longer it continues, and, too, there will be so great a quantity of septic germs absorbed into the system that death will result from septicemia, even though the local inflammation should be remedied by a late operation. —*St. Louis Medical and Surgical Journal.*

Congenital Exopthalmic Goitre.—March 29th, Mrs. R——, age forty, was delivered of a male child, weighing about nine pounds. Position left occipito posterior, presentation vertex and right hand, cord once around the neck. Labor in other respects normal. The mother had previously borne six healthy, living children. She now has a large exopthalmic goitre. The child was likewise possessed of one which was larger, according to the size of the child, than the mother's. The child gasped but a few times after delivery, and the usual methods failed to establish respiration.—A. H. Tufts in *Northwestern Lancet.*

According to Dr. L. G. Doane, of New York City, a neat way of giving quinine is as follows :

℞—Quinine . . . . . 1 grain
Chocolate . . . . . 1 scruple

Children, he says, will take quinine in this form and cry for more.

Solution of Chloral Hydrate, grains five to the ounce of water, will clear the hair of dandruff and prevent it falling out from this cause.—*American Lancet.*

THE NEW MEDICAL EXAMINERS LAW.

The following is the text of the bill approved June 5, 1890, relating to the licensing of practitioners of medicine in the State of New York :

AN ACT TO ESTABLISH BOARDS OF MEDICAL EXAMINERS OF THE STATE OF NEW YORK FOR THE EXAMINATION AND LICENSING OF PRACTITIONERS OF MEDICINE AND SURGERY; AND TO FURTHER REGULATE THE PRACTICE OF MEDICINE AND SURGERY.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. From and after the first day of September, eighteen hundred and ninety-one, there shall be and continue to be three separate boards of Medical examiners for the State of New York, one representing the Medical Society of the State of New York, one representing the Homeopathic Medical Society of the State of New York, and one representing the Eclectic Medical Society of the State of New York. Each board shall consist of seven members, and each of said members shall serve for a term of three years, from the first day of September next after his appointment, with the exception of those first appointed, who shall serve as follows, viz. : Two of each board for one year, two of each board for two years, and three of each board for three years from the first day of September eighteen hundred and ninety-one. The power of appointment shall vest in the Board of Regents of the University of the State of New York, which shall appoint the members of said boards of examiners respectively from lists of nominees to be submitted by each of the said three medical societies, the number of nominees by each of said societies to equal or exceed twice the number of appointments so to be made from each of said societies. Each of said nominees shall be nominated by a majority vote at the annual meetings of the society with which said nominee may be in affiliation, and the names of persons so nominated shall be transmitted before the first day of July eighteen hundred and ninety-one to the said Board of Regents, under the seal of and signed by the president and secretary of the society so nominating. From these

lists of nominees, respectively, said Board of Regents shall, prior to or during the month of July, eighteen hundred and ninety-one, appoint three separate boards of examiners, each board to be composed exclusively of members of the same medical society. In case of failure of any or all of said medical societies to submit nominees as aforesaid, said Board of Regents shall, prior to or during the month of July, eighteen hundred and ninety-one, appoint members in good standing of the corresponding society or societies entitled to nominate, without other restriction. Each one of said appointees, prior to appointment, shall furnish evidence of having received the degree of doctor of medicine in course from some legally incorporated medical college authorized to confer the same, and shall certify to said Board of Regents to having practiced medicine or surgery under the laws of this state for a period of not less than five years immediately prior to such appointment. The said Board of Regents shall fill vacancies by death or otherwise, for unexpired terms of said examiners from the respective lists of nominees submitted by the said medical societies; and may remove any member of either of said boards for continued neglect of the duties required by this act, or on recommendation of the medical society of which said members may be in affiliation for unprofessional or dishonorable conduct. The Board of Regents shall, in their first appointments, designate the number of years for which each appointee shall serve. The appointments of successors to those members whose terms of office will expire on the first day of September of each year, shall be made by the Regents during or before the month of July of such year, upon the same conditions and requirements as hereinbefore specified with reference to the appointment of the three separate examining boards, each to be composed exclusively of members of the same medical school and society as are hereinbefore provided.

§ 2. Said boards shall be known by the name and style of Boards of Medical Examiners of the State of New York. Every person who shall be appointed to serve on either of said boards shall receive a certificate of appointment from the Regents of the University, and within thirty days after receiving such certificate shall take, subscribe and file in the office of the Secretary of State the oath prescribed by the twelfth article of the constitution of this state. Each of said boards shall be authorized to take testimony concerning all matters within its jurisdiction, and the presiding officer, for the time being of either of said boards, or of any of the committees thereof, may issue subpenas and administer oaths to witnesses. Each of said boards of examiners shall make and adopt all necessary rules, regulations and by-laws not inconsistent with the constitution and laws of this state or of the United States, whereby to perform the duties and transact the business required under the provisions of this act, said rules, regulations and by-laws to be subject to the approval of said Regents.

§ 3. From the income provided in this act the Regents may pay, not to exceed said income, all proper expenses incurred by its provisions; and if any surplus above said expenses shall remain at the end of any year, it shall be apportioned by said Regents among said examiners pro rata, according to the number of candidates examined by each.

§ 4. The first meeting of each of the examining boards respectively shall be held pursuant to a call issued by the secretary of the Board of Regents, within two months from the first day of September, eighteen hundred and ninety-one, suitable notice in the usual form being given to each of the members thereof, specifying the time and place of meeting. At the first meeting of each of the boards respectively, an organization shall be effected by the election, from their own membership, of a president and secretary. For the purpose of examining applicants for license, each of said boards of medical examiners shall hold one or more stated or special meetings in each year, pursuant to a call of the Board of Regents, due notice of which shall be made public, at such times and places as may be determined by the Board of Regents; but each examination shall be under the supervision of an examiner appointed by the Board of Regents, and who shall not be a member of any board of medical examiners. At said stated or special meetings a majority of the members of a board shall constitute a quorum thereof, but the examination may be conducted by a committee of one or more members of the board of examiners, duly authorized by such board.

§ 5. The several boards of medical examiners shall submit to the Board of Regents lists of examination questions for thorough examinations in anatomy, physiology and hygiene, chemistry, surgery, obstetrics, pathology and diagnosis, and therapeutics, including practice and materia medica; from the lists of questions so submitted the Board of Regents shall select the questions for each examination, and present the same to the candidates at each examination by an examiner appointed therefor by the Board of Regents, and such questions for each examination shall be so selected as to require the same standard of excellence from all candidates, except that in the department of therapeutics, practice and materia medica the questions shall be in harmony with the tenets of the school selected by the candidate.

§ 6. Said examinations shall be conducted in writing, in accordance with the rules and regulations prescribed by the Board of Regents, and shall embrace the subjects named in section five of this act. At the close of said examination, the examiner appointed by the Board of Regents having supervision thereof, shall forthwith deliver to the boards of medical examiners having charge of such examination, or to their duly authorized committee, the questions submitted to and the anwers of each applicant, and such boards of medical examiners, without unnecessary delay, shall transmit to the Regents of the University an official report, signed by the president, secretary and each acting member of said board of examiners, stating the examination average of each candidate in each branch, the general average, and the result of the examination, whether successful or unsuccessful. Said report shall embrace all the examination papers, questions and answers thereto. All the examination papers so returned shall be kept for reference and inspection among the public records of the University.

§ 7. On receiving from either of said boards of medical examiners such official report of the examination of any applicant for license, the said Regents shall issue to every applicant who shall have been returned as having successfully passed said examination, and who shall in their judgment be duly qualified therefor, a license to practice medicine and

surgery in the State of New York. The Board of Regents shall require the same standard of qualifications from all candidates, except in the department of therapeutics, practice and materia medica, in which the standard shall be determined by each of the boards of medical examiners respectively. Every license to practice medicine or surgery, issued pursuant to this act, shall be subscribed by the chancellor and secretary of the University of the State of New York, by each medical examiner who reported the licentiate as having successfully passed the examinations, and also by those of the Regents who examined and approved the credentials of said licentiate upon the application for examination. It shall also have affixed to it, by the person authorized to affix the same, the seal of said University. Every such license shall be substantially in the following form:

"The Regents of the University of the State of New York. To all whom it may concern, greeting:

Be it known that A. B., on the . . . day of . . . . . A. D. . . having offered to us satisfactory proof that . . . . . was more than twenty-one years of age, and had received proper preliminary education; that . . . . . had attended three full courses of medical instruction, the last course at . . . . . in . . . . . in the years of . . . . . , and had received from the . . . . . of . . . . . the degree of doctor of medicine; we thereupon gave a written order for the examination of said A. B. before one of the boards of medical examiners of the State of New York; that the said A. B. was fully examined before said board and found proficient and qualified to practice medicine and surgery by the examiners, whose signatures are hereunto attached. We, therefore, have granted to said A. B. this our license to practice medicine and surgery in the State of New York as a physician and surgeon, and have caused the names of the chancellor and secretary of our Board of Regents and said examiners to be subscribed, and the seal of the University to be affixed hereto, and have also caused this license to be recorded in book . . . of medical licenses, on page . . . . " Before said license shall be issued, it shall be recorded in a book to be kept in the office of said Regents, and the number of the book and the page therein containing said recorded copy shall be noted in the body of the license. Said records shall be open to public inspection, under proper restrictions as to their safe-keeping, and in all legal proceedings shall have the same weight as evidence that is given to the record of the conveyances of land.

§ 8. From and after the first day of September, eighteen hundred and ninety-one, any person not theretofore lawfully authorized to practice medicine and surgery in this State, and desiring to enter upon such practice, may deliver to the Regents of the University, upon the payment of twenty-five dollars into the treasury of the University of the State of New York, a written application for license, together with satisfactory proof that the applicant is more than twenty-one years of age, is of good moral character, has obtained a competent common school education, and has either received a diploma conferring the degree of doctor of medicine from some legally incorporated medical college in the United States, or a diploma or license conferring the full right to practice all the branches of medicine and surgery in some foreign country, and has also studied medicine three years, including three courses of lectures in different years, in some legally

incorporated medical college or colleges prior to the granting of said diploma or foreign license; provided that two courses of medical lectures, both of which shall be either begun or completed within the same calendar year, shall not satisfy the above requirement. Such proof shall be made, if required, upon affidavit. Upon the making of said payment and proof, the Board of Regents, if satisfied with the same, shall direct the secretary thereof to issue to said applicant an order for examination by any one of said boards of medical examiners which said applicant may elect. In case of failure at any such examinations, the candidate, after the expiration of six months, and within one year, shall have the privilege of a second examination by the same board to which application was first made, without the payment of an additional fee. And it is further provided that applicants examined and licensed by State examining boards of other States, on payment of ten dollars to the University of this State, and on filing in the office of said Regents a copy of said license, certified by the affidavit of the president and secretary of such board, showing also that the standard of acquirements adopted by said State Examining Board is substantially the same as is provided by sections five and six of this act, shall, without further examination, receive from said Regents a license conferring on the holder thereof all the rights and privileges provided by sections eight and nine of this act.

§ 9. On and after the first day of September, eighteen hundred and ninety-one, no person not theretofore a legally authorized practitioner of medicine and surgery, under the laws of this State then in force, shall practice medicine or surgery in this State, unless that person shall have received from the Regents of the University, after examination and approval, as herein provided, a license to practice as a physician and surgeon, and unless said license shall have been registered as required under the provisions of chapter six hundred and forty-seven of the laws of eighteen hundred and eighty-seven, or, unless such person shall hold a license from a State examining and licensing board of another State, and shall have been licensed by the Board of Regents, as provided by this act.

§ 10. Nothing in this act shall be construed to interfere with or punish commissioned medical officers serving in the army or navy of the United States, or in the United States Marine hospital service while so commissioned, or any one while actually serving as a member of the resident medical staff of any legally incorporated hospital, or any legally qualified and registered dentist exclusively engaged in practicing the art of dentistry, or interfere with manufacturers of artificial eyes, limbs, or orthopedical instruments or trusses of any kind from fitting such instruments on persons in need thereof; or any lawfully qualified physicians and surgeons residing in other States or countries, meeting regular physicians and surgeons of this State in consultation, or any physician or surgeon residing on the border of a neighboring State and duly authorized under the laws thereof to practice medicine or surgery therein, whose practice extends into the limits of this State; providing that such practitioner shall not open an office or appoint a place to meet patients or receive calls within the limits of the State of New York; or physicians duly registered in one county of this State called to attend isolated cases in another county but not residing or habitually practicing therein.

§ 11. This act shall take effect immediately.

BUFFALO MEDICAL AND SURGICAL JOURNAL

A MONTHLY REVIEW OF MEDICINE AND SURGERY.

EDITORS:

THOS. LOTHROP, M. D. - - - W. W. POTTER, M. D

All communications, whether of a literary or business character, should be addressed to the editors: 284 FRANKLIN STREET, BUFFALO, N. Y.

Editorial.

VOLUME XXIX.—FINIS.

WITH this number the twenty-ninth volume of the new series of this magazine comes to an end, and this would appear a proper time in which to indulge in retrospection.

With the beginning of the volume we made some changes in the make-up of the JOURNAL that we think have resulted in substantial gain to our patrons. These were mainly in increasing to sixty-four pages monthly, in the adoption of long primer type as a standard, in printing reports of cases and long extracts in brevier, and in the numerous illustrations of superior artistic merit that have appeared from time to time. The half-tones from the celebrated house of Matthews, Northrup & Co., of this city, are especially worthy of mention.

The list of contributors to this volume is pointed to with pride, as indicating the high order of literary and professional excellence of our original department, and the society reports are well worthy of mention in connection with the original work that has first seen the light of publication through these pages.

In order to maintain this standard, which we purpose doing in the next volume, it is necessary that a considerable expenditure of money must be made, and we ask our subscribers to remit promptly the sums due on their accounts. The price of the JOURNAL will remain the same—two dollars a year—to advance paying subscribers; all others will be charged $2.50 a year.

To all new subscribers who will send us $3.00 we will send the JOURNAL and the *Cosmopolitan Magazine* for one year. This is an

offer that should prove tempting to any one familiar with good literature. The *Cosmopolitan* takes rank with the best of American monthlies, and is second to none in the world. It has only to be seen to be appreciated, and it cannot be obtained in this combination much longer.

THE FRESH AIR MISSION.

THIS noble charity, under the direction of a few of Buffalo's public-spirited citizens, is doing a grand work in the way of providing that most potent medicine — fresh air — for those who are in the greatest need thereof and the least able to provide themselves with it. During the Summer of 1889, 360 children, twelve mothers, and one grandmother were sent to the country for a visit of two weeks each, and when needed by sickness some cases were kept out a much longer time. This season it is proposed to enlarge very much the usefulness of the mission in the direction named, and to this end it makes an appeal to every philanthropic man and woman in Buffalo for aid. There should be no lack of funds for such a worthy object, and this great city of wealth and prosperity should take an abiding interest in the success of the enterprise. To Miss Alice Moore and her associates and coadjutors in the noble work already accomplished all praise is due, and they must be sustained in their present efforts to carry on their hallowed mission towards greater usefulness.

Miss Alice Putnam Baker is a solicitor for the mission, and we understand she is meeting with considerable success in obtaining subscriptions to the fund. Contributions can also be sent to Mrs. Herman Mynter, treasurer, 195 Franklin street, Buffalo, who will duly acknowledge any monies received.

Subscribers who desire to become members of the association should be careful to state that fact. The following is the form of application for membership which has been distributed :

TO MRS. HERMAN MYNTER,

Chairman Committee on Subscriptions,

195 Franklin street, Buffalo, N. Y. :

I hereby apply for membership in the Fresh Air Mission of Buffalo for one year from the date of this application, and enclose one dollar, the annual fee.

. . . . . (Name)

. . . . . (Address)

. . . . . (Date) . . . . . .

THE BOARD OF MEDICAL EXAMINERS OF THE STATE OF NEW YORK.

On another page of this number of the JOURNAL our readers will find the full text of the law, recently passed, which provides for a state examination of candidates for the practice of medicine in this state, and which directs the manner in which such examination shall be conducted.

We bespeak for the act a careful study, as in our judgment it is easily the most important medical law of this century.

In its enactment the State of New York enters upon a new policy towards the medical profession, for after its day of taking effect, September 1, 1891, the diploma of a medical college, no matter where located, and no matter how attained, ceases to be a license to practice.

By this law the people give notice that they resume the right to go behind the diploma in order to ascertain how much if any of professional ability the said diploma represents. That in taking this important step the state has acted wisely we firmly believe—that the provocation has been serious and of long standing, the literature of medical education in this country for the last quarter of a century abundantly attests that the result will demonstrate the superior efficiency of the new method of licensing physicians we confidently expect.

In the meantime we are glad to congratulate our readers upon the fact that this law was drawn by the committee on legislation of the Erie County Society—that after receiving the unanimous endorsement of that Society at a special meeting held September 8, 1883, it was given to the profession at large through the columns of this journal.

We spoke at that time under the title of Medical Education in the State of New York, as follows: "Ever since the JOURNAL has been under its present editorial management it has been outspoken in exposing the iniquities of our present system of medical education, and we have urged, with all boldness, the application of the only effective remedy, namely: "The complete separation of the unfortunate, unwise, "and debasing co-partnership of the educating and licensing powers. "As a brave step in the right direction, therefore, we rejoice to be able "to call the attention of our readers to the proceedings of the Erie "County Medical Society as published in this issue. The committee "on legislation have well done the duty imposed upon them and "desire the thanks and hearty support of every member of the profes- "sion in the State of New York."

We also will remember our warning to the advocates of this reform to the effect that they need not look for a walk-over, an easy victory,

but that they might prepare to meet an astute, powerful and well-organized opposition. The history of the repeated failures of the past seven years in getting the bill passed indicates that we did not over-estimate the power of the enemy.

Perhaps some of our readers will say that this law is very unlike the bill we started out with in 1883. This calls for three boards, that asked for one. To which we would remark that the years of waiting, the failures and the study of this question, has given us a better plan than that of 1883.

And although our sectarian friends are to have an examination board in homeopathy and another in eclectic medicine, yet there is only one Board of Medical Examiners of the State of New York, and that will be composed of seven physicians to be nominated by the Medical Society of the State of New York.

THE BEGINNINGS OF A GREAT THING.

The volume of the *Transactions of the American Association of Obstetricians and Gynecologists* for 1889 contains, among a vast mass of valuable matter, a bit of history in the shape of the personal recollections of Dr. Alexander Dunlap, of Springfield, Ohio. A paper on the Refinements of Abdominal Surgery was read by Dr. David Barrow, now of Lexington, Ky., but a former resident student of the Charity Hospital and a graduate of the University of Louisiana. He was followed by Dr. Jos. Hoffman, of Philadelphia, on Some Accidents and Complications Incident and Subsequent to Abdominal and Pelvic Operations.

The discussion on these two papers was lively and instructive. Perhaps the most entertaining remarks were made by Dr. Dunlap. His words were like the echo of a voice of the distant past. It would be difficult to describe more forcibly than Dr. Dunlap the hard experience that ovariotomy had before it was recognized as a lawful surgical procedure. Dr. Dunlap's first ovariotomy was performed in 1843, since which time he has made nearly 400 laparatomies. The president of the association in introducing Dr. Dunlap, said:

> About seventy years ago McDowell made the first ovariotomy. It is almost true to say that the operation for the time being died, after McDowell's time. In the year 1843, in July, the operation referred to by Dr. Price was made by Atlee. Two months later—forty-six years yesterday—the first ovariotomy of the west, after McDowell's, was made by Dr. Alexander Dunlap, whom I now have the pleasure of ntroducing to the association.

Dr. Dunlap disclaimed all right to be called a surgeon when he performed his first ovariotomy. This greatness was forced upon him. When he received his diploma, his authority to cure or do anything else, he felt that he knew but one thing, namely to cure fevers. This valuable knowledge was derived from one of his teachers, Prof. John T. Harrison, who said: "When you have a case of fever salivate it, and as soon as you see signs of ptyalism, you may assure the friends of the patient that their loved one is saved." Dr. Dunlap returned home and began practice with his brother. This same brother was evidently a good observer of human nature, and a man who did not like to be ousted out of anything that he had made for himself, for he said:

> Don't disturb me in obstetrics; I have learned enough to know that if you can make a community believe you can do one thing well, they will take all the rest for granted. I advise you to take surgery. * * * If you take up anything as your particular sphere of action, you must study it up and make a success of it, and then you can get credit for all the rest of your ignorance."

This happened in April, 1841, and in the following August a momentous event occurred; he saw his first case of fever! In the encounter, the patient came out second best, but living. Dr. Dunlap said:

> It was the most terrific scourge of typhoid fever in Southern Ohio. I had two patients and commenced to salivate them, and in a few days I wished to leave the State. I gave big doses and little doses, but there was no ptyalism, yet on the twenty-first day I thought the two young men to whom I had given that treatment, were getting a little better, and I could say to their friends that their loved ones were safe; but I could not see any salivation, and I could not understand why they were getting better. However, on the twenty-third day I was sure they were better, and on the twenty-fifth day I could smell the calomel. Then, for six weeks I had a fearful time. The patients were getting well, but were cursing me for rotting out their mouths. These cases made me lose faith in my teaching of medicine, and if I ever knew anything about it I would have to learn it myself at the bedside of the patient. Two years after that I got hold of a case of ovarian tumor. I did not know what it was for a while. I had heard that McDowell had operated, and in one little article in an old medical dictionary it was stated that McDowell had done the operation, but it was now condemned and considered to be murderous. I happened to tell this to the patient when I was talking to her; notwithstanding she insisted on my operating. I debated with her until she was almost dead, but she said if I would not do it she would get a common butcher to cut it out. She said: "All I ask is for you to cut me open and let me see what it is, and I will die happy." [Some slanderous critics have affirmed that curiosity is a feminine weakness.]

When urged in this manner to operate, Dr. Dunlap was a graduate of scarcely more than two years' standing. It is well-nigh impossible to appreciate now-a-days the colossal courage that he must have had in order to perform his first ovariotomy. But he finally yielded to his

patient's pleadings, and on September 17, 1843, he removed the tumor almost as well, according to him, as he could do it to-day.

That was many years before Listerism entered the lists as the champion of modern surgery. How, then, did Dunlap proceed in order to secure such a good result as he did secure? He says:

My preparation for the operation was a careful study of the organs of the abdominal cavity, until I had them as plain to my mental vision as they would have been had the cavity been open to my eyes, and I said to myself I would not cut any of them out; but anything else that I found that ought not to be there I would cut out. Fortunately, as soon as I opened the abdomen, I found what I thought ought not to be there. In running my hand around it I burst one big sac. I sponged out the abdomen and turned out the sac, and there was a long pedicle. I could almost have shouted glory! because I knew I could now control the hemorrhage. I finished the operation just as I do to-day. I pierced the pedicle and tied a double knot with silk; I always waxed the silk until I got it thoroughly imbued with wax. The woman lived nearly a month, and was out of all danger from the operation itself. I had been tapping her every ten days, for nearly six months, and drawing out a big wooden bucketful of water each time. The sudden checking of that flow of water from her system brought on a severe diarrhea, with large watery stools. I got that controlled, and she appeared to be doing well, when her kidneys began pouring out a flood of water, and, as I could not stop that, she ran down and died.

Now, when we bear in mind that anesthetics were first practically applied to surgical operations in 1846, we will at once perceive that there was a large element of courage on the part of the patient as well as the operator.

A case of this sort could not be lost to literature; so Dr. Dunlap prepared a report of the case. The fate of that literary effort will strike latter-day surgeons with some surprise:

I sent a report of the case to Prof. Harrison, and he returned it to me, saying he would not publish such an article, because it would only encourage some other man to do a foolish operation; and I tore it up—what would have been my first contribution to the literature of ovariotomy. Since that day I have done nearly four hundred laparatomies. The last was day before yesterday [*i. e.*, September 16, 1889].

The same age that witnessed the birth and growth of abdominal surgery also witnessed the advent of the steam engine and the telegraph. Progress makes one year as good as ten. The wonderful advances made in a lifetime cause events of fifty years ago to seem almost as belonging to a remote past and Dr. Dunlap, reviewing the changes made in a department of surgery which was scarcely born in his early manhood, may feel like an old-time salt viewing gigantic modern ocean steamers, while his memory carries him back to voyages of four or six months' duration, with their scurvy and other attendant evils.

But a wall grows higher by the stones being piled upon one another; the topmost stones could not reach so high if it were not for the lower

stones beneath, neither could an elegant superstructure of a mansion rear aloft if it were not for the plain, unornamental, but indispensable, foundation. Our modern surgery, over which we never tire of crowing, is not a thing living by itself and born of itself; it is merely the imposing capital placed upon the plain but enduring shaft, reared by men like McDowell and Dunlap.

All honor to those pioneers who ushered in the era of fearless, yet saving, surgery.—*New Orleans Med. and Surg. Journal, June.*

The national specialist associations are covering themselves with anything but glory in the methods adopted to defeat candidates for membership. Some years ago a physician was proposed for membership in the American Neurological Association who scientifically bore a high reputation. His sponsors were two leading American neurologists. His thesis was approved by one of the foremost American cerebral anatomists, but a small New York family clique tried to defeat the candidate in committee. The association soon demolished such star-chamber proceedings and elected the candidate. The American Genito-Urinary Surgeons Association refused membership to a leading American syphilographer, on a pseudonymous letter from a Chicago surgeon, now under suspicion for most dastardly secret unprofessional slanders against physicians, who has been censured for unprofessional conduct by the Chicago Medical society. The American Surgical Association seems to be following in the wake of the organization just named, for it has rejected an admittedly unobjectionable candidate at the instance of the horse-marine ex-editor of the *Journal of the American Medical Association.* If these national organizations continue to indulge in such puerile performances they will soon degenerate into coteries of mutual admirationists and the really scientific specialists will be forced to find a congenial home in sections of the American Medical Association.—*Chicago Medical Standard, June.*

Catalogue of Society Transactions.—William J. Dornan, Esq., printer, of No. 100 North Seventh street, Philadelphia, Pa., has issued a neat and convenient catalogue of the transactions of seven of the National special societies, viz., The American Gynecological Society; The American Association of Obstetricans and Gynecologists; The American Surgical Association; The Association of American Physicians; The Southern Surgical and Gynecological Association; The American Orthopedic Association, and the American Climatological Association. All the volumes issued by these

several societies are printed and sold by Mr. Dornan, who is entitled to be regarded as a specialist in this class of printing. This catalogue is a complete index of these publications, and should be obtained by all interested in such literature. Send for one.

'Twixt Tweedle-dum and Tweedle-dee.—The *Nashville Journal of Medicine and Surgery*, the organ of the president-elect of the American Medical Association, says that at the last meeting of the Tennessee Medical Society a resolution was introduced by Dr. J. D. Cole, of Newbern, in reference to the construction of that part of the code looking to consultation with homeopathic or other irregular practitioners. Commenting thereon it says: "There can be no doubt but that certain circumstances might be looked upon as mitigating the stringency of this section of the code, as for example the transference of a surgical case by an irregular to a surgeon, and it would seem that at times such a combination of circumstances have been taken advantage of, surgeons meeting and continuing in consultation with irregulars in cases entrusted to the former by the latter." Wherein does this position of the *Journal* differ from the much opposed "emergency" clause of the New York code, which led to the exclusion of the Medical Society of that State from the American Medical Association?—*Medical Standard, Chicago.* Echo answers "Wherein."

The law to divorce the teaching from the licensing authority in this State has finally passed, after a seven years' struggle with the opposition. If its provisions are considerately and loyally sustained, we venture the opinion that it will prove satisfactory. If, on trial, it should show defects, these can easily be remedied; but no respectable physician, no decent college, no medical society of standing, no clique or coterie whatever, can afford to be found throwing obstacles in the way of this reform, or threatening to move for amendments to the law before it is even tried. Any such will at once take their place where they belong, viz., with the enemies of progress, for this is where all right-thinking people, who are always in numerical majority, will class them. Henry Watterson's "Star-eyed goddess" would not even deign to glance slyly at them.

A Sanitary Organization of Women.—The women of Brooklyn have united to form a Ladies' Health Protective Association, similar to one which has for years been so useful in New York City. The lines of its work will be in the direction of such nuisances as offensive

pursuits, uncared for tenement houses, and filthy streets. The wives of physicians form a considerable proportion of the organization.—*Weekly Medical Review.*

AMERICAN MEDICAL ASSOCIATION.

Journalistic Echoes from the Nashville Meeting.

While the meeting may be pronounced a successful one in a general way, it was not marked by the presentation of anything new or startling in a scientific way.—*Weekly Medical Review, May 31st.*

The Nashville meeting, just closed, was a thoroughly successful one, no matter what the point from which the view may be taken. Forty States and Territories were represented — the largest number in the history of the association. It goes without saying that almost without exception the delegation from each State was composed of many of her most representative men.—*Love's Medical Mirror.*

Nashville is the title of an exquisite little brochure issued by the Lambert Pharmacal Company to the members of the American Medical Association. This souvenir contains not only much information of value, but also a number of finely executed artotypes, illustrative of points of interest in Nashville. This souvenir is so handsome that it will find a ready place in the office or parlor of every physician who is fortunate enough to obtain a copy thereof.—*St. Louis Medical and Surgical Journal, June, 1890.*

The Section work of the Association exhibited a marked improvement upon that of any previous year. There was more of scientific study and less conjecture and trash.—*American Lancet.*

The proposition to elect vice-chairmen of the sections originated with Dr. W. W. Potter, of Buffalo, chairman of the Section of Obstetrics and Diseases of Women.

Dr. W. W. Potter, of Buffalo, the president of this (Obstetrical) section, in his annual address, gave one of the best in the convention. —*Southern Medical Record.*

The meeting was a success from progressive, professional and scientific standpoints, and in its social features, perhaps, unexcelled in the history of the association. * * * Of the section work . . . it may be said that it was superior in most respects to the work of the past.—*The Medical Age.*

A NEW section was created, to be known as the Section of Materia Medica and Pharmacy. Dr. Frank Woodbury, of Pennsylvania, was named as chairman, and Dr. W. G. Ewing, of Tennessee, as secretary. Another new section, designated the Section on Dietetics and Physiology, was created.

THE PROVIDENT CHEMICAL WORKS, of St. Louis, are extensive manufacturers of phosphatic food products. They were represented by Messrs. Walter S. Burns and George P. Potee, and an attractive display of their Crystaline Phosphate. It is principally the phosphate of calcium, with the minor inorganic constituents of the tissues and phosphoric acid. It presents a pasty consistency, which is readily soluble in water, and makes an agreeable tart drink, especially when sweetened. They claim that the active properties are secured by using this crystalloid form. Samples and literature were given free to physicians.—*Dietetic Gazette.*

A NOVEL and altogether original feature of the exhibit of Messrs. Seabury and Johnson was the presentation of a fine surgical chair to the most popular physician in attendance at the convention. The contest was decided by votes of the physicians *themselves*, and the chair was awarded to Dr. Richard Douglas, an eminent physician, of Nashville.

AN ATTEMPT was again made to relegate the election of the section officers to the nominating committee. This was one of those spasmodic efforts of Keller — Keller of Hot Springs, Jim., — to bring himself forward to the notice of the house. The only wonder is that such as he are even tolerated, and how he could carry with him so large a vote is inexplicable. It is everywhere conceded that the sections were never doing as good work as now. The officers are now elected by the men who know their worth best, the test of merit being the work done in the sections and not the ability to lobby with the nominating committee. However, this effort of the lobby did not succeed, and let us hope it will not be again attempted, at least not until the present system proves a failure.

THE floor is the place from whence to carry on legislative business; so says the association by its resolution to prevent a coterie of ex-presidents from controlling affairs by swarming upon the stage and speaking therefrom to questions before the house. Verily, the day of deliverance has come.

Personal.

Dr. S. S. Green has removed to No. 326 Niagara street. Office hours: 2 to 3 and 7 to 8 P. M.

Dr. Eli H. Long has been appointed Professor of Materia Medica in the department of pharmacy of the University of Buffalo, N. Y.

Dr. John R. Gray has been appointed to fill the professorship of Pharmacognosy in the same institution.

Dr. William H. Parish was recently appointed Professor of Gynecology in the newly created chair in the Philadelphia Polyclinic Hospital.

Dr. Charles A. Wall has removed to 306 Hudson street, corner Plymouth avenue, Buffalo, N. Y. Office hours: 9 A. M., 2 and 7 P. M. Telephone No. 1637.

Dr. Wm. C. Krauss, of Buffalo, was elected a member of the American Neurological Association at the annual meeting recently held in Philadelphia. On his way there Dr. Krauss delivered a lecture at Cornell University on The Histological Investigation of the Nervous System, and was made non-resident lecturer in that department.

Dr. Neil L. McPhatter, formerly of Guelph, who settled in Cleveland after his return from Birmingham, where he worked six months with Mr. Lawson Tait, has gone to Denver, Colorado, where he is engaged in a large and lucrative practice. He has the chair of Gynecology in the university of that city.—*Canadian Practitioner.*

Dr. George T. Wetmore, of New York City, is visiting the physicians through northern and central New York as the representative of the Physicians' Mutual Aid Association. We have heretofore earnestly recommended this society to our readers, and now again urge them to secure its benefits when the opportunity is thus favorably offered.

Dr. Joseph M. Mathews, of Louisville, Ky., one of the most accomplished surgeons south of the Ohio river, came within four votes of election to the presidency of the American Medical Association at Nashville. Dr. Mathews is a presiding officer of rare accomplishments,

is one of the most eloquent and effective speakers within the ranks of American medical profession, and is fitted by education, culture and by all the attainments that go to make up a well-poised character, to wield the gavel of the Association, and we hope to see him do so at no distant day. The *Mediial Mirror* for June publishes a fine photo-gravure of this distinguished physician.

Obituary.

Dr. William H. Byford, of Chicago, died in that city May 20, 1890, aged 73 years, after an attack of augina pictoris, lasting but two hours. Dr. Byford has been a conspicuous figure in the medical history of his period. Distinguished as an author and a teacher he leaves a name and a fame that will outlast the centuries.

Dr. Joseph W. Howe, of New York, died at sea, of apoplexy, June 7, 1890, on board the Cunard steamer Umbria, which arrived at Queenstown June 14th. His body has been preserved and will be returned to New York for burial. The *Boston Medical and Surgical Journal* publishes the following:

Dr. Howe was born at New Brunswick, September 30, 1843, and when a young man became a reporter for the *Colonial Times*, of which his father was editor and proprietor. He subsequently studied medicine, and in 1866 was graduated from the medical department of the University of the City of New York. After graduation he served as interne at Bellevue Hospital, on the surgical side, and in 1868 was appointed Clinical Professor of Surgery in the University Medical School, a position which he held until 1882. In the meanwhile he became consulting surgeon to the Charity Hospital, Blackwell's Island, and visiting surgeon to St. Francis Hospital, positions which he retained subsequently. Among the works which he wrote were Winter Homes for Invalids, and Emergencies and How to Treat Them. He was a delegate to the International Medical Congress at Copenhagen in 1884, and was on his way to the Tenth International Congress at Berlin at the time of his death. Dr. Howe ranked high as a surgeon, and was personally very popular. He leaves a widow and one daughter, and his untimely taking off will be deeply regretted by the profession and a large circle of friends.

Society Meetings.

The American Society of Microscopists will hold its next annual meeting in Detroit, Mich., during Tuesday, Wednesday, Thursday and Friday, August 12, 13, 14, and 15, 1890, under the presidency of Dr. George E. Fell, of Buffalo.

The Meeting of Railway Surgeons.—The annual meeting of the National Association of Railway Surgeons, after a most profitable meeting at Kansas City, adjourned on May 2d, to meet at Buffalo, N. Y., May 2, 1891. The following are the officers for the ensuing year: President, Dr. Warren B. Outten, St. Louis; First Vice-President, Dr. S. S. Thorn, Toledo; Corresponding Secretary, Dr. A. G. Gumaer, Buffalo; Recording Secretary, Dr. E. R. Lewis, Kansas City; Treasurer, Dr. R. Harvey Reed, Mansfield, Ohio.—*St. Louis Medical and Surgical Journal.*

The American Association of Obstetricians and Gynecologists will hold its next annual meeting in Philadelphia, Tuesday, Wednesday, and Thursday, September 16, 17, and 18, 1890, under the presidency of Dr. E. E. Montgomery, of Philadelphia, and in the hall of the College of Physicians.

The Mississippi Valley Medical Association will hold its annual meeting in Louisville, Ky, October 8–11, 1890, under the presidency of Dr. Joseph M. Mathews of that city. This popular organization may look forward to one of its most prosperous meetings under such favorable auspices.

Medical College Notes.

The Medical Department of Niagara University has begun the erection of a large addition to their building on Ellicott street. The plans for this new building are very complete and practical, and will largely increase the teaching advantages of this school.

The Marion-Sims Medical College has been founded in St. Louis. Among the list of professors we note the names of Drs. I. N. Love and Y. H. Bond, which may afford our readers an idea of the excellence of this new teaching body. These names would not be found in improper company.

The College of Physicians and Surgeons of Chicago.—This finely appointed Medical School building is well equipped with laboratories, and affords ample opportunity for the pursuit of histological, physiological and chemical studies. Attention is invited to its announcement on advertising page xxvii.

THE College of Physicians and Surgeons of Baltimore is out with its announcement, which may be found on advertising page xxvii. This college furnishes many advantages to the student not obtained elsewhere, and its faculty, headed by Professor Thomas Opie, M. D., as Dean, is one of the strongest in the country.

HARVARD UNIVERSITY.—Summer courses in the Harvard Medical School, 1890.—The Medical School of Harvard University has arranged a series of courses to be given by the instructors in the Harvard Medical School during the summer of 1890. As some of the classes are necessarily limited in number, students will be received in the order of their application. Certificates of attendance will be given to students who may desire them. For further information address the secretary, Dr. W. F. Whitney, Harvard Medical School, Boylston street, Boston, Mass.

Journalistic Notes.

THIS new weekly, *The Illustrated American*, is getting handsomely down to its work. Regarding the pictures of the scenes in Louisville after the great tornado, the beholder has the assurance that the paper reproduces the scenes exactly as caught by the photographer's plates. For sale by all newsdealers, twenty-five cents. Annual subscription, $10.00, less than twenty cents per copy.

THE *Medical News* is informed that upon the completion of the July issue Dr. I. Minis Hays will retire from the editorial chair of the *American Journal of the Medical Sciences*, and that Dr. Edward P. Davis will be his successor. With Dr. Hobart A. Hare in editorial charge of the *News*, and Dr. Davis installed as editor of the *American Journal of Medical Sciences*, the Lea's can boast of as strong a journalistic team as the country can produce.

THE *Annals of Gynecology and Pediatry* (formerly *Annals of Gynecology*) is now published by the *University of Pennsylvania Press*, but still under the editorship of Dr. E. W. Cushing, of Boston. We regret the change in the size of this journal, for anything but a standard octavo is difficult to bind in a convenient manner. It is, however, a beautiful specimen of magazine printing, and the *University Press* may well feel proud of its accomplished manager, Dr. A. L. Hummel.

One of the brightest women in New York, Mrs. Isabel Mallon, who, perhaps, knows more about woman's dress and fixings than any woman in America, has been added to the editorial staff of the *Ladies' Home Journal*, of Philadelphia. Mrs. Mallon is an experienced editorial writer, and will conduct one of the fullest and strongest fashion departments in the *Journal* ever attempted in a general magazine. Her new position makes her the best paid fashion writer in the country. Mrs. Mallon is young, pretty, and one of the best known women in New York society.

Book Reviews.

The Principles and Practice of Surgery, being a Treatise on Surgical Diseases and Injuries. By D. Hayes Agnew, M. D., LL. D., Professor of Surgery in the Medical Department, University of Pennsylvania. Profusely illustrated. Second edition — thoroughly revised — with additions. In three volumes. Imperial octavo. Vol. I., pp. 1114; Vol. II., pp. 1066; Vol. III. pp. 785. Philadelphia: J. B. Lippincott Company. London: 10 Henrietta street, Covent Garden. 1889. Price, $7.50 per volume.

The wonderful strides of surgery in the past ten years has rendered much of the literature of 1880 of little value, except for reference; or it has, at least, been necessary to rewrite much of it, and recast the lines of other much, until its complexion has been so changed as to make it difficult of recognition.

Agnew's first edition appeared in 1881, and the present one illustrates by comparison with it just the idea we would wish to convey in the foregoing paragraph; it is especially true as regards surgical treatment, and is partially true as pertains to the general scope and plan of all surgical treatises. The author of this one has been so well known to the professional world as a teacher and writer for thirty years or more that very little need, or indeed can, be said to add or detract from his work as recorded in these volumes. They speak for themselves in no uncertain way; they are the result of practical observations by a practical observer, and must forever stand as a classic in the literature of American surgery. When a man tells what he knows and describes what he has seen in simple language, it has a weight that no mere theorist can attain with ornate speech and flowery utterance. This is a period in medicine when the outcry is for facts, and whoever establishes a fact in the study of disease has done humanity a lasting service. It has fallen to the lot of Dr. Agnew to serve his fellow-men in the direction named in a manner such as but few can boast. He attained the ripest years of mature judgment

before he ventured to speak to his professional brethren from the chair or in the attitude of an author, and he has waited until a fitting time to put forth a second edition of his first great work. It was wise to wait long; it were unwisdom to wait longer. To enjoy the fruits of his active labor, and live in the midst of its fullest appreciation, ought to be an ample reward to any man. These are the crowning glories of Dr. Agnew, and we hope he may yet live long to enjoy them.

The illustrations in this work are particularly good, and amplify the text in a useful manner. The paper and press-work are such as might be expected to accompany such a treatise. It is a work that must necessarily find a place in the library of every surgeon, and we should consider our own sadly deficient without it.

Diseases of Women and Abdominal Surgery. By LAWSON TAIT, F. R. C. S., Edin. and Eng., LL. D., M. D., Professor of Gynecology in Queen's College, Birmingham. Vol. I., 8vo, pp. viii.—543. Philadelphia: Lea Brothers & Co. 1889.

This book, like all that emanates from the pen of the distinguished author, will be read with interest by all who wish to keep themselves abreast of the literature of the day on the topics dealt with in its pages; and especially by those who have had an opportunity to partake of instruction at Mr. Tait's hands. It is probable that nothing that Mr. Tait has said in this work will change his status in the professional mind. He has already become established as authority on many questions, particularly those relating to the surgery of the abdomen. If we are to judge by results, certainly he must be given a foremost place in the history of that department of surgery. If, again, there are those who dissent from Mr. Tait's views on many questions, that need not — should not — prevent a fair judgment upon the successful work that he actually performs, nor detract from his established renown.

The work before us is characteristic of its author. It is direct in its statements, strong in its diction, sometimes polemic in its arguments, but always instructive in its lines. Whenever Mr. Tait criticises, which is not seldom, he does not fail to teach a lesson thereby. He does not seem to be critical for the mere sake of finding fault, but rather to enforce an argument. This point is too often overlooked by many critics, and Mr. Tait himself has not, in our view, been given sufficient credit in this direction. To find fault for the mere sake of gratifying a spirit of antagonism, is to be a bore; but to lay bare the weak points of a position with force and direction, even unto severity, becomes many times a necessity when an essential principle is

involved that cannot otherwise be maintained. This last work of Mr. Tait will hardly add to or detract from his fame as an author or teacher, but it serves to group a mass of facts or opinions into a compact form for convenient reference, that have heretofore been scattered through journals and monographs. The general scope of the work is to discuss the wider range of gynecology, but its chief interest centers in the portion devoted to abdominal surgery, which, as might be expected, embraces the larger part of the treatise.

The subject of Ectopic Pregnancy and Pelvic Hematocele is taken up at page 438, and continues to the end of the book. We have heretofore (March, 1889,) devoted considerable space in our columns to an analysis of Mr. Tait's views on this subject, and we see no reason to change them or to repeat them now. We should be glad to supply that number of the JOURNAL to any who may desire it. It is a subject of such transcendent importance, in view of the frequency of its occurrence, and the mistakes in diagnosis that are happening, that nothing that will throw light upon it, or serve to enable the general practitioner to recognize the importance of seeking early and prompt aid in even suspected cases, should be overlooked.

The following, taken from a recent number of a newspaper published in Akron, O., is introduced here to show the medico-legal entanglements that a mistaken diagnosis may involve:

A surgical operation was yesterday performed in this city with such remarkable results that it becomes necessary to make brief mention of it. For about a year Dr. I. J. Baughman, of South Akron, has been treating Miss Melissee Kintner, who resides on Bowery street with her sister, for ovarian tumor. It was thought that the tumor was caused by injuries which Miss Kintner received in an accident on the N. Y., P. &. O. Railroad, near Hudson, about eighteen months ago, and for which she obtained a judgment in court against the N. Y., P. & O. Company some time ago.

It finally became evident, in the judgment of Dr. Baughman and other physicians, that the only chance to save the young woman's life was to operate upon her for the removal of the tumor. She consented to have the operation performed, and yesterday was the time set for it. Dr. H. S. Biggar, Professor of Surgery at the Cleveland Col'ege of Homeopathy, and Surgeon at the Huron-street Hospital, Cleveland, performed the operation, and besides Dr. Baughman, the physician in charge, there were present Drs. J. W. Rockwell, O. D. Childs, H. B. Carter, William Murdock, of this city, and H. W. Carter, of Cuyahoga Falls.

To the profound astonishment of the operator, Prof. Biggar, and to his associate physicians, he discovered in performing the operation, not a tumor, but a child —a girl—weighing fully twelve pounds. The child was dead, and according to the judgment of the physicians present, had been dead for from one to three months. As stated above, the woman's trouble began over a year ago, and the case, on that account, and on account of the imperfect diagnosis, is one of the most remarkable in the medical annals of Summit county or Northern Ohio. The physicians were completely misled, and were profoundly astonished when the facts were revealed by the knife.

Miss Kitner is in a dangerous condition, and it is not expected that she will survive the operation.

We have published this clipping for the purpose of giving all the history of the case known to us. We assume, if this account is correct, that this was clearly a case of extra-uterine fetation, continuing to near term before the death of the fetus, and still the diagnosis was not made out until operation some months later revealed the true condition of affairs. Meanwhile a railway company is mulcted in damages for supposed injury. It would be interesting to examine the court proceedings at the trial to ascertain upon what testimony the verdict was allowed. Who were the expert witnesses, and what were the grounds on which their judgment was based? It would appear to us important that greater care should be exercised by the courts in admitting so-called expert testimony in obscure cases, to the end that none but men of acknowledged experience and judgment should be allowed to give *ex cathedra* opinions on the trial of medico-legal cases before judicial tribunals.

Wood's Medical and Surgical Monographs. Vol. VI., No. 1, April, 1890. Vol. VI., No. 2, May, 1890. Vol. VI., No. 3, June, 1890. Published monthly. Price, $10.00 a year; single copies, $1.00. New York: William Wood & Co. 1890.

The first (April) number of volume six of these valuable periodicals contains: The Human Foot, its Form, Structure, Functions and Clothing, by Thomas R. Ellis, M. R. C. S.; Modern Cremation, its History and Practice, by Sir H. Thompson, F. R. C. S.; Aphasia: A Contribution to the Subject of the Dissolution of Speech from Cerebral Disease, by James Ross, M. D., LL. D. The first article is profusely illustrated with wood cuts and colored plates; it goes into the artistic anatomy of the foot with much detail, and is the most valuable contribution to this interesting subject that has yet appeared. The importance of properly caring for the foot is not properly appreciated by the majority of people, and from this essay can be gleaned the rarest and latest information on the subject. The other titles in this number are interesting and are very ably handled by their authors.

The second (May) number contains: Insanity at the Puerperal, Climacteric, and Lactational Periods, by William Bevan Lewis, L. R. C. P.; Treatment of Diseases of Women by Massage, by Dr. Robert Ziegenspeck, Munich; The Treatment of Internal Derangements of the Knee-Joint by Operation, by Herbert William Allingham, F. R. C. S.; The Idiopathic Enlargements of the Heart, by Dr. Oscar Fraentzel, Berlin. This number also contains illustrations, and discusses several interesting problems in the recent literature of medicine.

The third (June) number of volume six contains: Bronchial Asthma, its Causes, Pathology and Treatment, by John C. Thorowgood, M. D., F. R. C. P.; Convulsion Seizures, by J. Hughlings Jackson, M. D., F. R. C. P.; Surgical Treatment of Diseases of the Brain, by Ernest von Bergmann, Berlin. These are all interesting titles, and are discussed by men of eminence, whose opinions command respect. This number also contains the index for Volume VI.

A Treatise on Orthopedic Surgery. By EDWARD H. BRADFORD, M. D., Surgeon to the Children's Hospit l, Boston City Hospital, and Samaritan Hospital; Instructor in Clinical Surgery, Harvard Medical School; and ROBERT W. LOVETT, M D., Surgeon to the Samaritan Hospital; Assistant Out-Patient Surgeon to the Children's Hospital; Out-Patient Surgeon to the Carney Hospital; formerly Assistant Surgeon to the New York Orthopedic Dispensary and Hospital. Illustrated with 789 wood engravings. Imperial octavo, pp. viii. —783. New York: William Wood & Company. 1890.

In the preface of this book the authors say that previous works on this subject have usually confined themselves to a consideration of the treatment of existing deformities, such as club-foot, lateral curvature, and bowlegs; that the prevention of deformity as well as its cure ought to be considered in such treatises; and that, for these reasons, diseases of the joints have been by them considered at considerable length. This is offering at once a good and sufficient reason for the appearance of this book.

Orthopedic surgery has grown into a distant specialty; separate chairs are created to teach it in the medical colleges; and separate medical societies, local and national, are organized to discuss its various and important phases. There is no more important duty that a physician can perform than to cure the deformity of a child that else would go through life a cripple, become, perhaps, dependent upon charity —certainly upon others — and besides offend the delicate æsthetism that should ever apply to the artistic proportions of the human body as elsewhere.

All honor, therefore, to these authors, as well as to the erudite and accomplished Gibney, and his colleagues in New York, who are doing such noble and scientific work. In all the cities of the land where the orthopedic surgeon can now be found, he should be sustained by his professional brethren, and aided in his good works.

This book is by far the most complete and interesting treatise that has yet appeared on orthopedy, and it will undoubtedly quickly pass through its first edition. The illustrations are profuse and clear, and the general execution of the book is in keeping with the excellent work turned out by Messrs. William Wood & Company, and is the second volume of the Specialties in the Practice of Medicine series.

A Hand-Book of Diseases of Women; including Diseases of the Bladder and Urethra. By Dr. F. WINCKEL, Professor of Gynecology, and Director of the Royal University Clinic for Women in Munich. Authorized translation. Edited by Theophilus Parvin, M. D. Second edition. Revised and enlarged with 150 illustrations. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1889.

This work of Professor Winckel became well known to the profession through the first edition thereof, hence we need not speak *in extenso* of this second one from the first German edition. A new section has been added upon Diseases of the Female Urethra and Bladder, in order to bring it forward to the line occupied by other similar treatises. This section has been added by the editor, Dr. Parvin, though it is chiefly a translation of Professor Winckel's monograph on this subject, the second edition of which was published in 1885. The editor has used his discretion as to which parts of the monograph to omit, and has made some of his own additions thereto, that are enclosed in brackets. The translator, Dr. J. H. Williamson, of Allegheny, Pa., has done no small part in making the work interesting through a clear and smooth translation. We are glad to possess such a valuable addition to our library, and congratulate author, editor, translator, and publisher on the valuable service they have each and all done the profession in bringing out such excellent literature.

Essentials of Gynecology, arranged in the form of questions and answers prepared especially for the students of medicine. By EDWARD B. CRAGIN, M. D., Attending Gynecologist to the Roosevelt Hospital, out-patient department, etc. With 58 illustrations. Philadelphia: W. B. Saunders. 1890.

Essentials of Diseases of the Skin, including the Syphilodermata. Arranged in the form of questions and answers. Prepared expressly for students of medicine. By HENRY W. STELWAGON, M. D., Ph. D., Attending Physician to the Philadelphia Dispensary for Skin Diseases, etc. With 74 illustrations. Philadelphia: W. B. Saunders. 1890.

These two little books are numbers 10 and 11 of Students' Question Compends. They are handsomely printed and bound and serve the purpose for which they are attended as well as any we have seen. The uniform price of the series is 75 cents each, and can be obtained through the trade or from the publisher direct.

The Neuroses of the Genito-Urinary System in the Male, with Sterility and Impotence. By Dr. R. Ultzman, Professor of Genito-Urinary Diseases in the University at Vienna. Translated by Gardner W. Allen, M. D., Surgeon in the Genito-Urinary Department, Boston Dispensary. Philadelphia and London: F. A. Davis. 1889. Price, $1 net.

This interesting subject is handled by this author in a clear and perspicuous manner. Since attention has been, of late, directed to the importance of these diseases and the relation they have to sterility on both sexes, every bit of literature bearing thereupon is in demand.

Dr. Ultzman is so well known as an author and a teacher that whatever he puts forth is sure to attract attention, and he has done himself credit and the profession a service in the present instance. There are yet many unsettled questions bearing on the subjects treated of in this book, and the author has contributed something towards their solution. He has not assumed to speak dogmatically where there is still doubt, but has given the results of his own observations upon most points. It is a book that cannot fail to find ready sale.

A Compend of Human Physiology. Especially adapted for the use of Medical Students. By ALBERT P. BRUBAKER, A. M., M.D., Demonstrator of Physiology in the Jefferson Medical College; Professor of Physiology, Pennsylvania College of Dental Surgery, etc. Fifth edition, revised and enlarged, with new illustrations and a Table of Physiological Constants. Philadelphia: P. Blakiston, Son & Co. 1889.

This is one of the Blakiston Series of quiz-compends, and is no longer strange to the profession. When a book reaches the necessity of a fifth edition its claim to be called standard is tolerably well established. This work is especially designed for students, and many teachers recommend it to their pupils. It admirably fills the place which it is put forward to occupy.

BOOKS AND PAMPHLETS RECEIVED.

Formulaire Aide-Mémoire De La Faculté De Médecine et des Médecius Des Hopitaux De Paris. Par Dr. Fernand Roux. Mention Honorable D L'Institute, etc., etc. Paris: G. Stembeil, Editeur. 1890.

University Medical College of Kansas City. Third Annual Announcement and Catalogue of Session, 1889-90.

Uric Acid Diathesis in Affections of the Eye, Ear, Throat, and Nose. By W. Cheatham, M. D., Louisville, Kentucky. Reprint.

Intestinal Anastomotic Operations with Segmented Rubber Rings, with some practical suggestions as to their use in other surgical operations. By A. V. L. Brokaw, M. D., St. Louis, Mo. Reprint.

New Method of Performing Pylorectomy, with remarks upon Intestinal Anastomotic Operations. By A. V. L. Brokaw, M. D., St. Louis, Mo. Reprint.

Health in Michigan. Report for May, 1890.

Communication from Jack the Ripper. Reprint from the *Medical Mirror*. St. Louis, May, 1890.

Apparent Cancerous Transformation of Syphiloma of the Tongue. Excision of the Tongue by the Galvanic-Cautery. By G. Frank Lydston, M. D., Chicago, Ill. Reprint.

A Description of Cochran's Method for the Determination of Fat in Milk, for the use of Dairymen. Bulletin of the Agricultural Experiment Station, Chemical Division, of Cornell University, College of Agriculture.

Abstract of Sanitary Reports, Vol. V., Nos. 23, 24, 25 and 26. Marine Hospital Bureau, Washington, D. C.

A Consideration of Sexual Neurasthenia. By Bransford Lewis, M. D., St. Louis, Mo. Reprint.

Fifth Annual Report of the Board of Health, the City of Newport, R. I., for the year 1889.

Fever: Thermotaxis and Calorimetry of Malarial Fever. By Isaac Ott, M. D., ex-Fellow in Biology, John Hopkins University. E. D. Vogel, Bookseller, Easton, Pa.

The Brooklyn Health Exhibition, held under the auspices of the Local Committee of Arrangements of the American Public Health Association, Brooklyn, N. Y., October 22 to November 30, 1889. Reprint.

Chloralamide as a Hypnotic. By W. Hale White, M. D., F. R. C. P., London. Reprint.

Fishing and Hunting Resorts of the Grand Trunk Railway. Season 1890.

Speech of the Hon. John P. Jones, of Nevada, on the Free Coinage of Silver, in the U. S. Senate, May 12 and 13, 1890. Reprint.

Miscellany.

RECENT PATENTS, ETC., GRANTED ON SUBJECTS AFFECTING THE MEDICAL AND SURGICAL INTERESTS.

Reported by CHARLES J. GOOCH, Patent Attorney, Washington, D. C.

Inhaler, R. Macdonald, New York, N. Y.; Inhaler, J. O. Woods, New York, N. Y.; Inhaling apparatus, R. Macdonald, New York, N.Y.; Medicine Spoon, C. Daniclowsky, Breslau, Prussia, Germany; Sick room appliance, J. G. Thrower, Atlanta, Ga.; Syringe, H. Read, Jersey City, N. J.; Acid compound of dimothylmeta—amidophonol, R. Gnehm & J. Schmid, Basle, Switzerland; Carbonic acid compound of metha-amidophonol, R. Gnehm & J. Schmid, Basle, Switzerland; Recovering glycerine from spent soap lye, A. Domeier & O. C. Haggemann, London, England; (1) Recovering glycerine from spent soap lye, E. K. Mitting, Chicago Ill.; (2) Recovering glycerine from spent soap lye, E. K. Mitting, Chicago, Ill.; Purifying glycerine, O. C. Haggemann, London, England; Distilling glycerine recovered from spent soap lye, A. Domeier & O. C. Haggemann, London, England; Liniment, S. J. Lancaster, Petrolia, Ontario, Canada; Head-band for surgical mirrors, J. L. Sardy, New York, N. Y.

TRADE-MARKS.

Antiseptic medical substance in powdered form (2), Farbenfabriken, vormals, Fr. Bayer & Co., Elberfeld, Germany; Hypnotic medicine,

H. K. Wampole & Co., Philadelphia, Pa.; Solid medicines usually in the form of lozenges, tablets and troches, Choate Drug and Chemical Co., Boston, Mass.; Anti-gonorrheic and adstringous medicines, Farbenfabriken, vormals, Fr. Bayer & Co., Elberfeld, Germany; Antiseptic astringents, E. T. Jester & Co., St. Louis, Mo.; Balm having both cosmetic and remedial qualities, C. J. Wilkins, Denver, Colo.; Emulsion of cod liver oil, J. A. Magee, Lawrence, Mass.; Liniment, W. W. Watkins, Kansas City, Mo.; Medical drugs, W. H. Schieffelin & Co., New York, N. Y.; Blood-purifying medicine, A. N. Callaway & C. O. McClure, San Antonie, Tex.; Medicine for kidney and heart diseases, Knoll & Co., Ludwigshafen-on-the-Rhine, Germany; Certain named medicines, A. P. & M. I. Partridge, St. Paul, Minn.; Medical tonic (2), W. Kalle, Biebrich, Germany; Remedy for nervous diseases, S. A. Richmond, Tuscola, Ill.; Remedy for pulmonary diseases, A. M. Chase, Orleans, Mass.; Medical compound for the certain named diseases, F. A. & C. B. Dicks, Natchez, Miss.; Cod liver oil, Scott & Bowne, New York, N. Y.

LABELS.

F. R. Hanrath, Cleveland, Ohio—(Medicinal Tinctures): Apis, Apocynum, Baptisia, Belladonna, Bryonia. Cactus, Carbo Veg., Chelidonium, Collinsonia, Cuprum, Drosera, Eryngium, Gelseminum, Impecacuanka, Lobelia, Macrotys, Nux Vomica, Phytolacca, Podophyllum, Pulsatilla, Rhus, Sticta, Veratrum, Viburnum; Bold's Tooth Powder, L. H. Bold & C. Jareckie, New York, N. Y.; Dr. James' Cherry Tar Syrup, J. W. James & Co., Brady's Bend, Pa.; Lessor Gardner's Cough Balsam, L. Gardner, Stanfordville, N. Y.; Stackhouse's Family Cough Syrup, J. Stackhouse, Philadelphia, Pa.; Magee's Emulsion of Pure Cod Liver Oil in combination with Extract of Malt and Hypophosphites of Lime and Soda, J. A. Magee, Lawrence, Mass.; Stackhouse's Liver and Anti-Malaria Pills, J. Stackhouse, Philadelphia; Blood Purifier and Rheumatic Cure, S. E. McCormick, Lancaster, Pa.; Day's Dyspepsia Discs (for a medicine), W. L. Day, New York, N. Y.; Glycerite of Menthol, neuralgic headache, and toothache cure, P. A. Turner & H. C. Ross, Pittsburg, Pa.; M. A. Curtis, Herb Ointment, M. A. Curtis, San Francisco, Cal.; Marshmallow Lotion (for the skin), Diamond Laboratory Co.; Marshmallow Throat and Lung Tablets, Diamond Laboratory Co., Penn., L. Naugatuck, Conn.; Neilson's Diarrhea Cure, F. L. Jacobs, Asheville, N. C.

CALF-PEPSIN.—Dr. Frank Woodbury, who introduced the glycerite of calf-pepsin, has an article in the *Medical Bulletin* for June, 1890, advocating its adoption by the United States Pharmacopeia, which at the last revision admitted hog pepsin, but acknowledged no other kind. In the case of infants, and in patients upon a milk diet, calf-pepsin is more appropriate, as it affords the physiological aid to digestion.

THE Maltine Manufacturing Company, of New York, has just published Part VI. of the series of brochures that this house issued at irregular though frequent periods. This number is entitled "Maltine with Pepsin and Pancreatine," and contains also the indorsements of many of the profession with reference to this combination of nutritive and digestive agents. The complete set of Maltine publications can be obtained on application to the company, 19 Warren street, New York.

THE HARDERFOLD FABRIC CO., of Troy, N. Y., manufactures a hygienic underwear that is not excelled by any with which we are familiar. The celebrated Jaeger underwear that has so long held sway with many must henceforth look to its laurels, for the Harderfold is certainly superior to it in many respects in our view, and we speak from a personal experience with both. It is a two-fold fabric throughout; that is, it is double, thereby giving an inter-air space and a smooth surface next to the skin. It is sold by leading merchants in the principal cities, and we advise a trial of it by those about to purchase.

HOW WOMEN SHOULD SIT.—Women who sit with their legs crossed, to sew or to read or to hold the baby, are not aware that they are inviting serious physical ailments; but it is true nevertheless. When a man crosses his legs he places the ankle of one limb across the knee of the other, and rests it lightly there. A woman, more modest and restricted in her movements, rests the entire weight of one limb on the upper part of the other, and this pressure upon the sensitive nerves and cords, if indulged in for continued lengths of time, as is often done by ladies who sew or embroider, will produce disease. Sciatica, neuralgia, and other serious troubles frequently result from this simple cause. The muscles and nerves in the upper portion of a woman's legs are extremely sensitive, and much of her whole physical structure can become deranged if they are overtaxed in the manner referred to.—*Ladies' Home Journal.*

TARRANT'S SELTZER APERIENT is an effervescent alkaline salt of great value in lithemia. It is a valuable remedy in habitual constipation, and is an efficient vehicle for the administration of many iron preparations. Moreover, it is agreeable and wholesome as a daily medicine where alkalies are demanded in many urinary affections. Its general use by the profession has not been disappointing, and it has already become standard in the directions named.

PARKE, DAVIS & CO. are out this month with some seasonable suggestions as to eligible remedies for prevalent diseases of hot weather. They have a very convenient list of intestinal sedatives, antiseptics, antispasmodics and anodynes for diarrheal and dysenteric affections, some new expectorants of note for coughs and colds, and a normal liquid ipecac always reliable as an emetic in cases of gastric disturbances due to accumulated fermented food, so frequent a cause of infantile diarrhea. We may also state that this house is largely increasing its facilities for the manufacture of Pharmaceuticals. Buildings now in process of erection will double their capacity for production this year, and a new laboratory, very complete in its appointments, is now being built for them in Canada.

J. B. LIPPINCOTT COMPANY announce in press an important work on Regional Anatomy in its Relation to Medicine and Surgery, by George McClellan, M. D., Lecturer on Descriptive and Regional Anatomy at the Pennsylvania School of Anatomy, Professor of Anatomy at the Pennsylvania Academy of Fine Arts, Member of the Association of American Anatomists, Academy of Natural Sciences, Academy of Surgery, College of Physicians, etc., of Philadelphia, with about 100 full-page fac-simile illustrations reproduced from photographs taken by the author of his own dissections, expressly designed and prepared for this work, and colored by him after nature; to be complete in two large quarto volumes of 250 pages each. The object of this work is to convey a practical knowledge of regional anatomy of the entire body, the text to embrace, besides a clear description of the parts in systematic order, the most recent and reliable information regarding anatomy in its medical and surgical relations. The illustrations are intended to verify the text, and to bring before the reader the parts under consideration in as realistic a manner as possible. Volume I. will be ready for publication about December 1st, and the second volume is expected to appear shortly thereafter. The work will be sold by subscription only, and salesmen will begin an active canvass the coming October.